

THE AMERICAN BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XV.

CHICAGO, ILLINOIS, JUNE, 1879.

No. 6.

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Editor's Table.

☞ The Express Companies, as well as the freight lines, have considerably decreased their rates. One pound will now go for 25 cents over any or *all* the lines of the different companies.

☞ Prof. Cook's new "Manual of the Apiary" is received with universal approbation; hundreds of unsolicited complimentary letters and notices have been received by the publishers. The third edition being nearly exhausted, another thousand copies have been issued, making six thousand that have been published within three years.

☞ In the *Bee-Keepers' Exchange*, Mr. J. H. Nellis, the editor, reports a loss of 30 per cent. of his bees, which he says is "*traceable largely to the grape sugar experiment*," and his queen-rearing business. This is another striking commentary upon the use of such trash for feeding bees.

IS IT PATENTED?—A correspondent wishes to know if the prize honey box is patented. We answer, No. It has so many "fathers" that it would be difficult even to decide as to its paternity. Mr. Betsinger, of New York, seems to have as much right as anyone to adopt it as his child—and he, over a year ago, generously gave it to the public. Anyone claiming a patent right on it, is a swindler. We hear that such are now canvassing the country. Give them a wide berth.

OUR CONVENTION TRIP.—According to announcement in the last JOURNAL we visited the following conventions during the past month:

Southern Kentucky,
Central Kentucky,
Western Illinois and Eastern Iowa,
Muscatine District, Iowa.

On our way to the first, we called on Mr. C. F. Muth, in Cincinnati, and enjoyed a day with him in viewing the city, and calling at the apiary of Mr. J. S. Hill, at Mount Healthy, O. Mr. Hill's apiary is in good order, and his bees were working lively on fruit bloom when we were there. Mr. H. showed us his bottle-feeder, for which his hives are arranged, for feeding from an inverted bottle, and reached only from the inside. Also his "swarm-catcher," which is exceedingly handy. We here-with present a cut of it. The bag may



be made of factory, having a handle of cloth on the inside as well as the out—making it reversible. With a long wooden pole it will reach any swarm, and when the bees are emptied in front of the hive the handle on the outside gives the apiarist control of it, and when turned inside-out a handle is still on the outside, as it has two of them.

We enjoyed a visit with Dr. N. P. Allen of Smith's Grove, Ky., and his pleasant family, and the neighboring bee-keepers, who came in and spent the evening with us.

At Gainesville, Mr. & Mrs. T. M. Goodnight entertained us very agreeably.

At Lexington we spent Sunday and Monday with Mr. Wm. Williamson, who took us to see the celebrated Horse Farm of Major Thomas. The Major entertained us right royally, and showed us his fancy horses most willingly, one of the best being imported from England, and worth \$25,000.

At Hamilton, Ill., we enjoyed a good visit with those excellent apiarists—Ch. Dadant & Son, the Rev. O. Clute, Messrs. Scudder, Palmer and others.

At Muscatine, we had a good visit with Mr. Kirk, Major Allen, the Rev. E. L. Briggs and many others who attended the convention.

We saw some old friends and many new ones, and had an exceedingly pleasant trip of over two thousand miles.

COMB BUILDING.—Mr. Taylor propounds the following question:

Novice says "that bees gorging themselves, at (as I understand it) any season, the same will cause them to at once proceed to comb building?" Is this your idea? I have always thought that after the excitement that caused them to fill up was over, they would disgorge and return the honey to the combs, and become as they were before this gorging. I can not see that this simple action necessarily puts them to comb-making.

We have no evidence that bees build combs for other than two purposes, viz., for storing honey and for the queen to lay in. When the hive contains combs for these two purposes, sufficient for present needs, nothing can induce them to build more. Bees never build comb except for immediate use.

HUMBUG.—Dr. Decker has sent us a copy of the Aroostook Valley (Me.) *Sunrise*, containing the letter of Mr. Clements, which appeared in the BEE JOURNAL for January, concerning Mrs. Cotton's transactions. That paper then remarks as follows:

We hope Mrs. Cotton will give our readers the facts in the above case, if not already quoted, and thus free our minds from the suspicion that a female trickster resides in our midst. Mr. Blaisdell of this town gave Mrs. Cotton a challenge through this paper, but as yet we have heard nothing from it, and Dr. Decker, the "bee-king" of Aroostook, informs us that such a statement as Mrs. C. makes is wrong in fact and in principle, for he is certain, from many years' experience with bees, that such yields cannot be made as stated in her advertisement. If Mrs. C. is robbing the people by palming off such cumbersome rubbish as represented, and not fulfilling her agreements, she most certainly should be exposed and the public put on their guard against such fraud.

For the brood chamber the thick comb foundation is superior to the thin. It adds strength to the combs, as well as supplying the wax for building out the cells.

London Show for Bees and Honey.

This exhibition is in connection with the Royal Agricultural Society of England, and will be held at London, June 30 to July 7, 1879. The British Bee-Keepers' Association have offered the following prizes: First prize, £3; Second, £2; Third, £1. (The value of £1 sterling is \$4.86.) These prizes are offered for each of the following specifications, making a total of £24, or about \$116.14.

For the best Observatory Hive, stocked with bees and their queen, all combs to be visible on both sides.

For the best Hive, on the movable comb principle, with covering and stand.

For the best exhibition of pure honey in sectional supers—each section to be separable, and not more than three lbs. in weight, the total weight of each entry not to be less than 12 lbs. The honey to be submitted to analysis, if required by the judges or stewards.

For the competitor who shall in the neatest, quickest, and most complete manner drive out the bees from a straw skep, capture and exhibit the queen, and transfer both combs and bees into a hive on the movable comb principle. Competitors to provide their own bees and hives. No veils or gloves to be worn.

In each of the classes 374, 375, and 376, a hive of British manufacture, with cover and stand complete, on the movable comb principle, will be presented to the foreign competitor to whom the judges shall award the highest honors.

A letter from Mr. W. M. Hoge, who is now in London, informs us that he has made an entry for such Americans as may desire to avail themselves of the opportunity. The entry is made in the name of the National Association and can be used by any of our American apiarists. Articles intended for this Show must be sent *at once* to Mr. W. M. Hoge, care of Thurber & Co., of New York; they will forward them to Mr. Hoge, who offers to do all in his power to exhibit them to advantage. Particular care should be taken in packing, as freight is handled roughly when stowing away in the steamers. We hope that there will be a good exhibition of American implements and honey. We have already sent off our exhibit, and will take pleasure in showing any that may be on hand, when we arrive in London, which we expect to do about

June 30th. Messrs. Thurber & Co. will have an exhibit of 1000 crates of beautiful American honey in the comb.

Those who imagine that it is necessary to tear down the reputation of some one else, in order to build up their own, are usually as shallow-brained as they are evil-disposed. Such are unable to understand why it is "better to *suffer* than to *do wrong*!" But the noble-minded will readily comprehend its force and meaning, as well as endorse the sentiments of the following:

If your good be turned to ill—Let it pass!
Be you kind and gentle still—Let it pass!
Time will soon make all things straight:
E'en resent not—only wait—
Make your triumph grandly great.
Let it pass! Let it pass!

Be not swift to take offense—Let it pass!
Anger is a foe to sense—Let it pass!
Any jealous man may give
Slanders vile that should not live—
But the noble can forgive!
Let it pass! Let it pass!

Plato upon being told that he had many enemies who spoke ill of him, said, "It is no matter; I will live so that none shall believe them."

BEE ENEMIES.—Professor Cook very kindly offers to receive specimens of bee enemies, and describe them in the BEE JOURNAL. Those having such not yet described may send specimens to him. Attention is directed to the following letter from the Professor:

Lansing, Mich., May 21, 1879.

DEAR MR. EDITOR: Mr. V. W. Keeney, of Shirland, Ill., sends a spider which had captured a live bee without the aid of a web. I would send a figure and description of this new enemy if I was sure it was much of an enemy. If Mr. K. finds another at the same work I will do so. I am led to think this is exceptional.

May I ask all readers of the AMERICAN BEE JOURNAL to send me specimens of all bee enemies for description. If alive, inclose in a close tin box; if dead, wrap in cotton and mail in a box. A. J. COOK.

The American Association of Nurserymen, Florists, Seedsmen, etc., meets in Cleveland, O., June 18-20, 1879. All residing east of Cleveland will apply to T. S. Hubbard, Fredonia, N. Y., for information in regard to reduced rates on railroads, and all west of Cleveland will apply for that information to D. Wilmot Scott, Galena, Ill.



Austro-German Exhibition.

Herr R. Mayerhoeffer, editor of the *Austrian Bienen-Zeitung*, writes concerning the meeting of "The Society of Bee Friends," as follows:

Our society intends to hold a general, universal apicultural exhibition, on the occasion of the meeting of the German-Austrian bee-keepers. This exhibition will contain, (1) living bees, (2) bee-hives, apiarian implements and tools; (3) antiquated bee-hives, not now in use, for the historical section; (4) honey and wax, and divers preparations of them, likewise honey-cakes of all kinds, honey-wine, etc.; (5) bee-papers, and bee-literature generally.

All to be addressed to "the Society of the Bee Friends in Bohemia," in the German language, as follows:

In die Gesellschaft der Bienen-freunde in Böhmen, Prag, Neustadt No. 747.

The exhibitors are requested to give their full address, because a catalogue is to be printed in three languages—English, German and French.

I hope that the bee-keepers of America will show their progress in bee-keeping and prove to us that they have widely surpassed the old world in modern apiculture.

For the exhibition, prizes are fixed by the Austrian government, consisting of silver and gold medals. The Society of Bee-Friends will also award medals of gold, silver and bronze, as well as diplomas. R. MAYERHOEFFER.

As correct statistical information concerning the apicultural industry of the United States is very desirable, the President of the North American Bee-Keepers' Society wrote to Gen. LeDuc, Commissioner of the Agricultural Bureau at Washington, to induce him to have it fully reported through the coming general census-taking. The following is Gen. LeDuc's reply:

Washington, May 16, 1879.

THOS. G. NEWMAN, Esq.:

Dear Sir: I have your letter of the 13th inst. referring to bee-culture, and am entirely in sympathy with this, as all other matters pertaining to agricultural advancement of the country. I will refer your letter with appropriate remarks to the Chairman of the Committee on Census, in the hope that it may receive proper attention. If in any way I can promote the interest of bee-culture I shall be glad to assist you.

WM. G. LEDUC, Commissioner.

Moving Bees by Railroad.

Garafraxa, Ontario, May 12, 1879.

1. How many colonies of bees will an ordinary freight car contain; hives being of usual size for movable frames.

2. During a journey of say three days, is it necessary to supply them water?

3. How much ventilation is it necessary to give them, and how ought the combs to be fixed to insure safe transportation in the fall with winter supplies?

Many bees are dead in this part of Canada. My 65 colonies were wintered in the cellar as well as usual, with a loss of one from starvation. The cellar was damp, so I agree with your correspondent, Ira Barber, on that point in May No. April 18th they were set out, as they were getting uneasy after nearly six months' confinement. I rather think "chaff" has met with a check, as being the thing for wintering, from accounts in last *Gleanings*. Query.—Why can't we here in Canada have a Bee-Keepers' Association? Where is Rev. W. F. Clarke, of Guelph, D. A. Jones, I. McKay, Tench, Walton, and many others? Surely material and talent is not wanting to form the nucleus of a good society. I. C. THORN, M. D.

[As Mr. T. F. Bingham has had considerable experience in shipping bees by rail, we have procured his views on these questions and give them entire, as follows:]

1. About 70 Langstroth hives will set on the floor of a common freight car. They should fill the car tight from end to end and be firmly wedged, so the car only will receive the jar incident to coupling, stopping, starting, etc., which are beyond the control of the shipper. If the car is not filled from side to side, something must be nailed to the floor so as to prevent the hives from working out of line. Shaking, either end-wise or side, is to be avoided at all hazards. The frames are to run lengthwise of the car in all cases. The tops of the frames should be nailed or secured firmly in place, and so fastened at the ends or bottom as to prevent side motion. A wire cloth (No. 10 or 12), covering the hive across the top, is a safe plan; the cover being left off entirely. But if two story Langstroth hives are used, the honey-board may be removed and the cover or upper half fastened on tightly, after being provided with eight or ten two-inch holes, where the air will reach them from all sides, and covered with wire cloth. The latter plan does not furnish as much ventilation, but gives the bees more room to scatter about the sides of the hive and keep cool, and is the plan usually adopted. Air should be supplied at the entrance and through two or three two-inch holes in the bottom of each hive.

2. It is very difficult to supply water to bees in transit, and not essential if they can be kept cool.

3. In cool weather, in October, if they were not going south of the Ohio river, much less ventilation would be needed than if going further south.

An open or stock car is best for shipping bees, as it is cooler. Such a car in motion is very cool.

T. F. BINGHAM.

Maddened Bees—Robbing.

Mrs. L. Harrison, of Peoria, Ill., gives in the *Prairie Farmer* the following incident as her Easter morning experience with her bees:

On returning from church on Easter morning, we were met at the gate by infuriated bees, who did their very best to plant their stings. As we and the bees are generally on good terms, we were surprised at their behavior, and inferred that something had aroused their anger in our absence. On investigating, we ascertained that a hive where frames of honey had been stored had an imperfect cover, and that the bees were doing a "land office business" in robbing. We drove out the robbers, put on a good cover, and placed a smoker in full blast on the hive.

Kerosene oil is our "sovereign remedy" for robbing. When bees are prying into every crack and crevice of a hive, bent on plunder, we rub all their points of attack with a cloth saturated with kerosene. It is amusing to see how soon these marauders are converted into law-abiding subjects. "Prevention is better than cure," and great care should be exercised, that no inducements are offered to excite them to this species of warfare. Hives where bees have died should be shut up closely, and no honey exposed in any way, shape or form. Our opportune discovery at Easter prevented our apiary being demoralized. If they had been permitted to carry off the honey thus found, when it was finished, they would have tried to rob the weaker colonies, and stung every person and thing within reach. Sometimes when we are cutting out drone brood, if the bees get at the milky fluid it excites them to sting.

A good smoker is an absolutely essential implement in every apiary. Had Mrs. Harrison not had such at hand, she would have had trouble, and the loss of several queens and colonies may have been the result. We can do our readers no greater favor than to say—get a smoker, and always have it ready for use, in case of need.

•••••
 A correspondent asks: "Must bees have water in the cellar when they commence to raise brood in the spring? What is the best way to feed bees flour in the cellar? Where shall I put it?"
 We answer: History proves that water

is not a necessity; some have thought it might prove advantageous, but many of our most learned apiarists think not. Flour is not fed in confinement, but after the bees are out, and on the wing. It is then spread out in flat dishes or on boards, in the sun and out of the wind. It is of no use *after* natural pollen appears.

•••••
 "QUINBY'S NEW BEE KEEPING."—This is the title of the revised edition of "Quinby's Mysteries of Bee-Keeping." It is thirteen years since the late Mr. Quinby's work was published, and the many new inventions were therefore untouched in it, hence the necessity for re-writing. This has been admirably done by Mr. L. C. Root, his son-in-law and former partner, who was, therefore, the better able to give the truest interpretation to Mr. Quinby's views of the improved methods of bee culture, to which he devoted the last few years of his useful life. Mr. L. C. Root has fully sustained Mr. Quinby's reputation as a vigorous writer, and being a cultured apiarist, has added to the original work all that was omitted—bringing it down to the present time, in the matter of improvements, presenting the reader with a clear and concise statement of his views on all the apicultural questions of the day.

It contains a memorial of Mr. Quinby, written by his friend, Capt. J. E. Hetherington, of Cherry Valley, N. Y., in which he pays handsome tribute to the memory of the late distinguished apiarist and author.

It is finely illustrated and printed, and is published at \$1.50, by Orange Judd Co., New York, and may be obtained at this office.

•••••
 On p. 195 of BEE JOURNAL for May, in article on "Buckwheat." "\$1.00 to him," should read "\$1.00 *per colony* to him." As it appears in the article, it is indefinite. Please correct. A. J. COOK.

•••••
 The Annual Autumn Bee and Honey Show of Denmark will be held at Copenhagen, September 17th and 18th, 1879.



The Bees and Fruit Trees.

So much has been said and written about Bees injuring Fruit Trees that the following interesting incident related by Mr. William Carr, in the *British Bee Journal* for May will be read with interest. Speaking of the plum, pear, cherry, apple, almond, peach and other fruit trees, Mr. Carr says :

All these fruit-trees yield a great quantity of beautiful and highly flavored honey, and when in bloom the bees are working from morning to night collecting the honey and pollen, and fertilizing the bloom. We should have little fruit if it was not for the agency of bees. All good fruit-growers keep bees to fertilize their fruit-bloom.

This reminds me of my visit to (our noble and good President of the British Bee-keepers' Association) the Baroness Burdett-Coutts' residence at Highgate, on April 8th, 1870. When I went into the peach-house, the gardener said to me, "See what a quantity of peaches I have got set!" I said, "You have, indeed; how do you account for it?" "Well," he said, "I have always kept bees to fructify my fruit-bloom; but last autumn I bought a stock of Ligurian bees, and they being hardier than the common bees, began working earlier, and got into the peach-house just as the trees were coming into bloom and the result is I have nearly double the quantity of peaches set I ever had before."

Mr. P. Miller, of Fredonia, N. Y., has sent us some tin points for glassing sections. They are three-sixteenths by five-eighths of an inch. One end is sharpened for driving into the wood of the section. This shape holds the glass exceedingly well, and will be a favorite among those who glass sections.

Part IV of Novice's A B C of Bee Culture is received, embracing subjects from R to T. One more Part will finish the book, and then it will be sold for \$1.00. It contains much information and is specially adapted to beginners. It is illustrated with numerous engravings of tools for the apiary.

A club for the BEE JOURNAL may be sent all to one post office or to as many post offices as there are names in the club.

A colony for California is being formed by Mr. J. P. Whitney, 14 West Swan St., Buffalo, N. Y. who will send a pamphlet concerning it to any one interested.

A correspondent who is endeavoring to institute a Bee-Keepers' Association, asks how often it will be best to have the meetings held. This is a matter that the beekeepers forming such an Association can determine for themselves. They may be monthly, quarterly, semi-annually or annually. Those associations that are the most noted for their influence and best results, hold their meetings semi-annually. When meetings are held too frequently they often are thinly attended and become less and less interesting. It is far better to have one or two meetings in a year that are successful than twelve that are poorly attended and uninteresting. We notice a growing inclination towards the semi-annual gathering, and we really think they are the most desirable.

Mr. James Heddon asks if any of the readers of the BEE JOURNAL have observed that propolis dust is extremely irritating to the bronchial tubes? Any one having made observations in this direction is requested to answer Mr. H.'s question.

Unless he is a good workman, no beekeeper should attempt to make frames, hives, honey boxes, crates, &c, for his own use. They will not only cost him more than those he could buy, but will not be half as good. The making of frames and boxes require skill with tools; they should be all accurately cut, smoothly finished, and be perfectly interchangeable.

REPAIRING THE LOSS.—Many colonies have been lost during the past winter and spring, but the loss is not irreparable. The hives and combs are left. These are valuable and can be used to much advantage. The loss of the bees is a small matter, comparatively, as good fertile queens will soon rapidly augment the number of bees, if the summer is favorable, and the secretion in the flowers abundant. Clean the hives and combs, feed the weak colonies if necessary, keeping them warm, and stimulate for brood-rearing, dividing the populous colonies as fast as needed, and the losses will soon be repaired, at least in part.

Our Letter Box.

Milan, Ill., May 12, 1879.

My 77 colonies of bees wintered without loss in a dry cellar. Bees doing nicely, but unless we get rain soon, the white clover will be cut short. C. H. DIBBERN.

Bear Lake, Mich., May 13, 1879.

I put 26 colonies in the cellar last fall and took out 25 this spring. All are in fine condition, filled with brood. Some are about ready to swarm. D. H. HOPKINS.

Glenwood, Ill., April 5, 1879.

I put 117 colonies in the cellar about Jan. 1, 1879; have now lost 5. The weather is cold and dry and the prospect not very promising. On page 132 of March No., 1878, was printed a letter from me but signed "C. L. Frost;" please correct it. C. L. SWEET.

New Lenox, Ill., May 5, 1879.

I see by the JOURNAL a number of bad reports in regard to bees. Mine are in fine condition. I lost only one out of 131 colonies. The hives are well filled with bees and drones are flying. We need rain badly to bring on good bee pasturage, as the ground in this section is very dry. FRANK SEARLES.

Hamilton, Ont., May 10, 1879.

I was down to see my bees yesterday. Some colonies were a little weak, but all are doing well. Orders are coming in so fast that I can scarcely attend to them. It is far beyond my expectation. I thought your rates of advertising a little high at first, but now think it the *cheapest and best* advertising medium I ever used. W. G. WALTON.

[That is the universal verdict. We are glad the BEE JOURNAL gives such general satisfaction, not only as to its reading matter but also its general character and management. To merit approval is our greatest aim.—ED.]

Brandywine Summit, Pa., May 1, 1879.

Bees in this locality are doing well. On April 30 gathered a quantity of honey from cherry and apple bloom. Some colonies got as much as 7 lbs. We are about ready for harvest. We have just completed our hives and frames and commenced to transfer. The condition of our bees promise a large yield of honey unless the secretions fail, which they never have done within my memory. J. T. WILLIAMSON.

Holyoke, Mass., May 5, 1879.

My bees are doing well; 1 wintered 10 colonies, 9 in my cellar and one out of doors. One died with dysentery, the others are all right. I fed some on sugar syrup, and should in any case in the spring, as that is their greatest time of need. I don't intend to increase very much, as I live in the city, and there is not much forage except what they get out of town. LUTHER A. TABER.

Chillicothe, Mo., May 6, 1879.

ED. A. B. J.: You misunderstood my question when I asked whether or not rubber bands might not be used to hold section boxes together. I did not mean bands as substitutes for nails in holding the *pieces of a section*, but in holding the several sections to form a box of them. It seems to me that if the sections are as much as $\frac{1}{4}$ inch thick and for two combs, well nailed, that a good rubber band might be used to form a section box. J. W. GREENE.

[We are sorry for the misapprehension. We see no reason why a rubber might not be used successfully to hold several sections together. A bent wire, such as Mr. Heddon uses, is also a good plan. See April number, page 150.—ED.]

Palestine, Ind., April 28, 1879.

The JOURNAL is a welcome visitor. My bees are all in good condition. I did not lose one colony, and yet the winter was extremely cold. I had drones flying the 20th of April. M. E. LOEHR.

Bethany, Ill., May 5, 1879.

Our bees gathered pollen March 10 to 12, and no more till March 20 and 21; then they did nothing more till April 20. Since then they have gathered plentifully of both honey and pollen. They are in fine condition and drones have appeared. I wintered 31 colonies out of doors and lost none. The BEE JOURNAL and Langstroth on the Hive and Honey Bee are my counsellors. A. M. RHODES.

St. John's Co., Fla., May 9, 1879.

I purchased in Jacksonville last October, 6 movable frame hives of Italian bees. They then did not have a pound of honey in all the hives, but there was plenty of comb. They remained out of doors during the winter, and there were very few days but what the bees would be out to work. During the past month I have divided 5 of the colonies and obtained 5 new strong swarms; the first was a natural one, and all are now doing well. A. S. ARESON.

West Bay City, Mich., May 5, 1879.

There has been great loss in bees here during the past winter and spring. I hear of one man who lost 150 colonies; all he had. I did not learn whether they were wintered in a cellar or on summer stands. I put 11 colonies in the cellar. They did well till April 1. I examined them and found 2 dead; one starved, the other had plenty of honey. On the 20th I again examined and found one more dead and two others very weak. I then took them out of the cellar and put them on their summer stands; the 2 weak ones had no queens. I put them in another hive. The remaining colonies have plenty of brood and honey, and are doing well. I am a beginner. This is not very encouraging, but I see by the JOURNAL that the past winter has been a hard one on bees. I like the bee business and shall continue it, with the assistance of the AMERICAN BEE JOURNAL. I think a great deal of it and would not attempt the bee business without it.



The combs that the bees died on were covered with a dark colored substance that smelt bad. Was it dysentery that killed the bees? Will it do to put those frames in other hives? There is considerable honey in them.

HENRY S. WALRATH.

[It was evidently dysentery. The combs may be used without danger in other hives. The bees will clean them up.—ED.]

Linden, N. Y., May 5, 1879.

I have wintered 16 colonies of bees and lost 2, one queenless the other of dysentery. I packed them in chaff; they are all in nice chaff now; hives full of bees; they are now gathering some honey from dandelions. Many bees have died in Genesee and Wyoming counties this winter, that were left on their summer stands; one man has lost 18 out of 20; another 50 out of 75; another 6, all he had. Fully 50 per cent. have died, and the rest are generally weak.

JAS. S. LORD.

Mahoning Co., O., May 3, 1879.

Bees in this locality have not wintered very well; from 25 to 50 per cent. having died. I have not lost as many as some. Those wintered in-doors came through in good condition. The greatest loss occurred to those wintered on their summer stands, no difference how protected. "Experience teaches in a dear school," but a certain class learn only by it. I cannot see why all do not read some good journal, say the AMERICAN. I have found it worth many times its cost. Therefore, I say success to the AMERICAN BEE JOURNAL.

LEONIDAS CARSON.

St. Charles, Ill., April 28, 1879.

The bees in this county (Kane), wintered in cellars have come out in fine order—never better. Of those wintered out doors 25 or 50 per cent. have perished. Bees in-doors were generally put out the fore part of March. They are now at work on willow, hard maple, cottonwood and dandelion. They get some honey and considerable pollen. White clover has wintered finely, and the prospect for a large yield of honey therefore is flattering. We have had so much cold spring weather that we may have a warm spell when fruit trees are in bloom. If so it will be an unusual occurrence.

M. M. BALDRIDGE.

Brecksville, O., May 12, 1879.

Bees came through with a loss of 2 colonies only, the balance in fine condition. The changeable weather since, however, has made it necessary to consolidate a few of the lightest, and we shall go into the season with 40 good colonies of the 46 put in the cellar. The 2 packed in chaff outside came through as good as the best, notwithstanding the severe winter. Probably the loss of bees in this section in wintering will exceed 50 per cent. The mortality has upset all our theories. One man wintered all his bees with no protection; another lost all under similar circumstances. But our best and most careful apiarists have lost heavily, and the ways we account for it would fill volumes.

CHAS. S. BURT.

Newhall, Cal., April 26, 1879.

Please answer the following questions in the next BEE JOURNAL: Have you or any of your readers had any experience with pine honey barrels not waxed? Is it absolutely necessary to wax them? Will honey dissolve glue if barrels are coated with it; or will the glue give a bad taste to the honey? Is there anything equally as good for coating as wax, but cheaper? Do you know of any drinking vessel for chickens, where bees will not drink also? I use a tin can, straight up and down, and bees cannot well go in or out, yet every day there are some about it and they get drowned. If I use a wooden vessel the bees crowd out the chickens, although they have a much handier place to get water—a trough with a raft or float in it.

D. C. MENSING.

[We have had no experience with pine barrels. If any of our readers have, we should like to hear the result. Oak barrels do well for honey without waxing.

We know of no way for watering chickens out of doors that will exclude the bees—the latter being the smallest.—ED.]

Concordia, Mo., April 24, 1879.

I noticed an article in the April number of the AMERICAN BEE JOURNAL, p. 166, on a "New Method of Hiving Bees." It appears to me that it is a poor method to sprinkle bees when they issue to swarm, because it very often makes the queen turn back and also a good many bees go back again, and you will often have a failure. My method for 20 years has been to catch swarms in sacks when they issue, made for that purpose. I cannot see how an apiarist can have success without catching swarms when they issue, and I hardly believe that a better plan can be invented than to catch them in sacks. I am only puzzled that this method is not better known among our American bee friends.

CHRIST BRUNKE.

Winchester, Ill., May 4, 1879.

My 22 colonies came through the hard winter splendidly. Had drones flying from No. 20 in the middle of April. It is so very dry I have delayed putting on supers, but to-night I find one portico hanging full of bees. Fourteen colonies were in hives with two walls, each $\frac{1}{4}$ thick and $\frac{1}{2}$ inch dead-air space; they have done best. Three were in telescope hives holding 8 Quinby frames; outer wall or cap only $\frac{1}{4}$ thick; inside wall full inch with $\frac{1}{2}$ inch dead-air space. Three had 8 Gallup frames; hives made same style as last; but while all did well the larger frame is the strongest now. One in box hive, put in a dry-goods box, packed in straw, and covered from wet, with passage for bees to pass in and out, did very well; and a sassafras "gum," with stakes driven about and well packed with straw, with small entrance open, also did well. I put new quilts over my frames last fall, but the bees enameled all they could get at. A neighbor had a colony in my single-walled hive with an old gum cloth over the frames and it wintered well, but he had another very strong colony in my double-walled

hive which he let go into the long cold snap with a sack with 2 half-filled sections over them and they froze or smothered, as ice blocked the entrance and formed all over inside the hive, though it was well made and had a close-fitting cap. You cannot smother bees by burying hives in snow, but let solid ice block the entrance and they will generate carbonic acid gas enough to kill them. I shall get all to 10x12 frame this summer except a few in Armstrong's Centennial hive. Shall not have a hole or crevice of any kind in a hive except the entrance. Professor Cook is right there. Dr. Foreman gives a good idea as to size of sections in the JOURNAL for May. Thurber & Co. prefer the $4\frac{1}{4} \times 4\frac{1}{4}$ sections. I think Mr. Langstroth errs when he says fresh paint is distasteful to bees, for I can paint nothing when they are flying without having them about. Have done some transferring and found plenty of old honey in the hives, but I hear of a considerable loss of bees hereabout. Mine went into the winter with from 30 to 60 lbs. per hive, and I do not think my largest colony ate 10 lbs. during the winter. This season I shall get to 50 colonies, and shall turn my attention more to improving the breed rather than to increasing the number of colonies. What is worth doing at all is worth doing well. WM. CANN.

Traders' Point, Ind., May 12, 1878.

I packed 40 colonies last fall in straw, moved my hives near together and packed between them and the north with straw, leaving the front to the south open, and let them fly at will. I do not pack until winter sets in, and I put them out early in spring. In this way I have not had much confusion by mixing. I took out 37 this spring and they are all alive now and gathering honey. I never had my bees in better condition. To the southwest, six miles, the bees are in bad condition. There were several cider mills of large capacity in operation in that vicinity last fall, and nearly all the bees are dead. One man lost 34 colonies and has only one left. What had the cider to do with it? For two years in succession (1876 and 1877) I set my bees near together, made them mice-proof, packed straw between the hives, then covered them up some two feet deep and left them until spring with a little ventilation at the ground. I had no shed the first winter. They came out all right. The second winter was very warm and wet and in February I took them out.

I. N. COTTON.

[The bees had sour cider for winter food instead of honey, and for that reason they perished.—Ed.]

Lawrence, Kansas, May 10, 1879.

There appears to be a dislike to the wire foundation from the tendency it has to corrode, and the bees not taking to it kindly in consequence. The Government stamped envelopes in England have strong silk threads interwoven diagonally in the tissue or pulp of the paper for protection against fraud. It occurred to me that silk thread might be used instead of wire, if stretched tightly over the machine, as it is a non-yielding substance, very strong, and would

not become rotten for a length of time. Yellow or white silk would harmonize with the color of the wax. If you think the suggestion feasible, perhaps you will give it for the benefit of the foundation makers.

My invention for regulating the entrance of the bee-hive has an advantage over "The New Langstroth Hive," inasmuch as it not only gives me a quick and ready control over the entrance, but it admits of sufficient air at all times to enable you to move the hives about, and at the same time it keeps the bees from coming out, and it is rather an ornament to the hive than otherwise.

Would it be possible to hang temporary separators on the rabbets between the frames on starting a colony so as to insure straight combs, and then remove them when the combs are built? They might be hung on a wire. W. O. CARPENTER.

[It is possible to hang temporary separators as suggested, but we doubt its desirability. As to the silk threads, manufacturers of comb foundation may take the hint.—Ed.]

Macon, Mo., May 12, 1879.

I think that too much space to keep warm was the cause of so much destruction among the bees during the past winter. In box hives the chamber cannot be controlled, and where long frames are used, and a few frames are closed up with a division board, the bees are spread out too much. The nearer to a cube for the cluster in winter the better. After selling several colonies last fall, I wintered 31; all came through nicely and are at work on the raspberry and other bloom. I used 4 division boards; I put 2 across the hive just long enough to take the frames lengthwise of the hive and then used one division board each side, closing them up to 5 or 6 frames. Over the top of the frames I use a cotton batten mattress. This gives me a double-walled hive with dead-air spaces all around and the bees in the center. The extra division boards cost only 10c. each. The thermometer was down to 26 below zero here last winter.

C. EGGLESTON.

[We suppose Mr. E. uses the Langstroth hive with frames running crosswise, or something similar, in order to give the air spaces as he describes.—Ed.]

East Gloucester, Mass., May 5, 1879.

MR. NEWMAN: I see by Mr. Manning's catalogue of 1879, that Mr. Parsons of Flushing, N. Y., has the credit of calling your attention to my Sweet Pepper as a honey shrub. It appears the signature "A. Parsons," of my article in the February number of A. B. J., p. 58, was understood to be that of Mr. Parsons, instead of Miss Parsons, and as such, Mr. Manning has sent about 10,000 circulars, containing descriptions of this fragrant plant (*Clethra Alnifolia*) all over the United States. I am much pleased that you should consider anything I wrote to be of sufficient value to give a prominent place in the JOURNAL, and am anxious that bee-keepers should know and appreciate my old familiar friend (the Sweet Pepper), and



the many good qualities possessed by it. The honey is milder than that of clover, growing in its wild state in swamps, near, and on the borders, and increasing in proportion to its nearness to the sea shore.

I thought if it could be of service in the bee direction, no matter if not known who called attention to its cultivation as a bee forage plant, but when all the credit is given to another, this I consider an injustice to Mr. Parsons as well as myself. Please rectify this mistake in your next number of the JOURNAL. AMELIA PARSONS.

[We are sorry for the misapprehension, but no one would be able to tell from the simple signature of "A. Parsons," whether it was Mr., Mrs. or Miss. Mr. Manning will no doubt cheerfully make the correction.—Ed.]

Otley, Iowa, May 3, 1879.

Father and I put 137 colonies of bees in the cellar, about Nov. 20th; some were small nuclei. We took them out April 13th to 20th, and lost only 2 queenless colonies while in the cellar. We have lost 2 or 3 since taking out of the cellar, by neglect, as they got out of honey. We moved 30 colonies about $1\frac{1}{2}$ miles, and kept 105 at home. I think we have as much as 150 acres of white clover pasture, within $1\frac{1}{2}$ miles. Have we too many bees in one place for our locality? Basswood is quite plenty within the same distance. Buckwheat, together with numerous fall flowers, make pasture quite plenty in the fall. Fruit trees are coming into bloom nicely now. I think, for some things, this season is a month behind last year. Father died last February, so I will have to attend to the bees this summer myself. I prevent increase as much as I can, and run bees mostly for box honey. What is the shortest distance it will do to move bees after they have marked their location?

W. C. NUTT.

[A good yield of honey from an apiary so well located as yours, is a reasonable expectation. Though possibly not as much *pro rata* as you would from fewer colonies.

Bees moved less than 3 or 4 miles at this season of the year are apt to perish in considerable quantities. If moved a short distance it should be gradually done. An obstruction placed at the entrance, to cause them to re-mark their location is essential, if moved more than a few inches.—Ed.]

Richland Springs, Tex., April 18, 1879.

I am on the frontier of Texas, in San Saba county, with 95 colonies of bees, all in good condition. Try this: Transfer your bees late in the evening, early next morning put them on a clean bottom board, stopping all the cracks, then with a rag wet with kerosene, rub all the cracks and front end of bottom board, and all is done. Clean up all waste before morning. Bees brought in pollen almost every week last winter. This is a land of milk and honey.

R. DEVENPORT.

Chippawa Hill, Ont., April 26, 1879.

Bees have not wintered well, on the average, in this part of Canada. I have lost 9 out 16. W. K. MOORE.

Otsego, Mich., April 26, 1879.

From $\frac{3}{4}$ to $\frac{3}{4}$ of all the bees in this vicinity are dead. The old question—"What is it?" I have lost 10 colonies, and am convinced that it is a disease to all intents and purposes—notwithstanding, some think otherwise. T. F. BINGHAM.

Downsville, Wis., May 7, 1879.

My bees have wintered well and drones are commencing to fly. Fully one-half the bees in this section died the past winter and many colonies are still dwindling.

A. J. TIBBETTS.

Augusta, Ga., April 24, 1879.

Bees in this section have been set back by a very hard freeze which occurred about April 6th; this was followed by a succession of heavy frosts that killed all the bloom. There have also, this spring, been high winds and heavy rain. J. P. H. BROWN.

Smithsburg, Md., April 28, 1879.

I had drones on the 6th of April, from the nice yellow queens which produce those nicely marked drones; who can beat that with imported queens in the same latitude? I live 4 miles south of Mason and Dixon's line. My imported stock are from 15 to 18 days behind, and they were behind last year in swarming and honey gathering.

D. A. PIKE.

Wellsville, O., April 25, 1879.

I had 112 colonies last fall in good condition, but with too much honey in the hives. I was very busy and left them on summer stands, and now more than $\frac{3}{4}$ are dead. I have kept bees for the last 30 years, sometimes having as many as 500 colonies, but never had such a wholesale slaughter. Some in this section have lost all, and some have given up in despair.

D. S. SILVER, M. D.

Westfield, N. Y., March 13, 1879.

We have had but a few fine days since Dec. 1st; it has been intensely cold and stormy nearly all the time. It has been a hard winter for bees, but mine are in the best possible shape for a good season's work. They had a good cleansing flight on the 9th and 10th of March. I examined them and found brood in from 4 to 5 frames in each hive in all stages. I have not lost a single colony during the past two winters. I winter in a frost-proof building, putting them in as soon as cold weather comes. I take out one or two frames of comb and spread the rest in order to give more space between the combs for the bees to form thick clusters. I ventilate them by leaving the cap on the hive with one or two of the box holes open and about one-half of the front entrance open. This leaves no draft through the hive, and at the same time lets off all moisture, leaving the combs dry and free from mould. Many lose their bees by spring dwindling; this I think is caused by

letting them fly out in the cold days of the spring. I am never troubled in this way; I let them have a good fly in March, and then let them remain in the house until the weather is warm enough for them to fly and get back. If bees are managed in this way there will be but little loss in wintering or spring dwindling. I wish some who have been unsuccessful in wintering would try my plan and report results. Be sure to have the building dry. F. HARDINGER.

Waveland, Ind, May 10, 1879.

Yesterday my bees were gathering honey dew from the sugar-tree leaf. The leaves were covered with a fringe like little pins or red briars. The sugar-tree bloomed on April 20th, and bees got a good start, built comb, and commenced breeding nicely. I inclose a sample of comb foundation made on the plates I got of you. I have to press two sheets at once to prevent cutting holes at the base of the cells. I send a sample of that pressed single and also double. I keep a pan of warm suds and draw the sheets through it; then, when pressed, commence at one corner and separate. It is very easily done. I make from 6 to 9 feet per pound. Will some one give a plan to clarify wax? I know no way but to strain and settle.

PETER JAMES.

[The foundation sent us is very well made, and quite thin. The making of two sheets at a time is a good plan; at least that is by far the best sample of the two. The cells are not as regular as when made on the rolls, but it will be as readily used by the bees.—ED.]

Limerick, Ill., April 29, 1879.

I think the loss in bees about here last winter and this spring, is equal to any 2 years heretofore. Last season it was a tedious job for me to nail frames true; but in the BEE JOURNAL for October I saw an engraving of a frame holder, so I made one from that design, and the time gained by using it while nailing my frames, over last year's way, if employed on the farm in plowing, would pay for the frame holder and the BEE JOURNAL, too, for one year.

E. PICKUP.

Wrightstown, Wis., May 5, 1879.

There has been great loss among the bees throughout Northern Wisconsin. About $\frac{2}{3}$ have died. Many beginners have lost all of their bees. Some that have been keeping bees for years, and supposed they understood the whole science of bee-keeping, have lost heavily. One man that has kept bees for 17 years, and was formerly very successful (and two years ago announced he had the science complete, and stopped taking the BEE JOURNAL) waged war against all scientific research, and from a small man, grew immediately to a Goliath; but "how are the mighty fallen." He cannot hide the fact that his bees are nearly all idle in death. I placed 27 colonies in my bee house last fall and lost one. Since putting them on summer stands have lost two that were weakened by cholera. I have built a bee house which I am satisfied will

prove a success for wintering. I will at some future time forward a statement in full of my building, which is not expensive and which will ultimately be "The house I prefer." In due time I will endeavor to give my plan of preparing bees for winter.

CHAS. R. CLOUGH.

Santa Anna, Cal., April 13, 1879.

Will the queen larvæ from a pure Italian mother be developed as duplicates of herself by black bees; or, in other words, will the royal jelly deposited by black bees have any influence in changing the blood or purity of the Italian? The prospects for a good season for honey-gathering in Southern California are fair. Rainfall since November from 5 to 9 inches. Vegetation and crops growing briskly. We heartily wish that the circulation of the JOURNAL may be extended until it shall find its way to the hand of every apiarist. THOS. L. FRAZER.

[From my observation, as also from the physiological principles involved, I am strongly of the opinion that the character of the nurse-bees, as to purity, has no influence on the larval workers or queens. I believe that the queen from a pure Italian queen, mated with a pure drone, will certainly be pure. Some apiarists of wide experience and observation, are, however, of contrary opinion, among whom is M. Metcalf. It is so difficult to know that our queens, even though apparently pure, have not a trace of impure blood, as also that the drone with which she coupled, was not also slightly tintured with foreign blood, and as we know in all animals even a trace of impurity will sometimes push itself into marked prominence after being dormant for years, we see it is easy for such persons to be deceived. Still, many points connected with reproduction are veiled in doubt. We have much to learn as to the influence of coition on the female, and possibly much on the question at issue, the influence of the nurse-bees to modify the physical characteristics of the young which they attend. There is no full exposition of the subject of royal jelly, so far as I know.—A. J. COOK.]

Golden Plain, Ill., March 28, 1879.

My bees come through the winter in good condition, with few exceptions. I lost none while in bee house—one queenless; left the hive after taking out and went into another hive, and during the late cold spell two starved to death, which makes a loss of 3 out of 137 put in bee house. All the hives I have looked into have combs nice and bright, and they commenced breeding rapidly before taken out of bee-house. The worst trouble this winter was to keep the temperature low enough, especially after they began breeding, and I found one of the best ways of quieting them was to fill a



sponge with water and lay on the bottom-board at the entrance of the hives. Several times I found my bees hanging out in front of the hive, as they sometimes do in hot weather. My ventilation holes in the wall under the floor were not large enough for the bees I had, and I could not enlarge them this winter.

R. R. MURPHY.

Kenton, Tenn., April 13, 1879.

"Our pets" suffered severely during the extreme cold weather the past winter. Many still use the old-fashioned box hives. Last spring their bees swarmed excessively with very unfortunate results, weakening the colonies so that they either perished from starvation or cold, or became an easy prey to the bee-moth. One peculiarity of last summer's work was that the bees gathered an insufficient supply of pollen and many of them literally starved to death with an abundant supply of honey.

H. T. FULLERTON.

Sullivan, Ind., May 8, 1879.

My bees are all in box and log hives; they do not rest on bottom but are suspended in a sack or frame and the bottom is suspended; they have no protection except boards temporarily set upon the west side, where is also a paling fence. In each of the 5 box hives was made a $\frac{1}{2}$ inch hole near the top, bottom closed except $\frac{3}{8}$ inch holes; the logs have no opening in top except into the cap for honey, all got through in tolerable condition except one that was weak in the fall. I read the JOURNAL, and have procured movable-frame hives and will transfer.

GEO. GOODWIN.

Rome, Ga., May 13, 1879.

The season for 1878 was one of the poorest ever known in this locality for bees; the winter also was cold, much more so than usual, and many colonies perished. The present spring has been cold and wet, and bees have been backward about swarming. They commenced work near the middle of April and are gathering honey rapidly now. In a previous number of the BEE JOURNAL allusion was made to my experiment with foundation made upon tin foil. The frames used for this test were very nicely and handsomely completed, without sagging in the least. We concluded to experiment still further, and we now have bees at work on this foundation, and we propose to show, in a short time, "*honey in comb*" one "*solid foot*."

A. F. MOON.

West Creek, Ind., March 24, 1879.

In the spring of 1875 I purchased 6 colonies of bees in box hives; these gave 11 swarms, which I wintered in old gums and cracker boxes, sitting on a bench out in the yard without any protection. That winter I received a circular from N. C. Mitchell, and I got a township right of him, but sold no hives, for the Mitchell system did not suit me. My bees increased to 47 colonies, and I had some hives cut double the last of the swarming season and put 5 late swarms in them, and left them on the summer stands. The Mitchell hives I moved up together and covered them with straw while the cold

weather lasted, and then set them on the summer stands, and when apple blossoms came I had 13 good colonies and 3 poor ones. I started afresh in 1877, and went into winter with 42 colonies and came out with 41; the millers killed one. The year 1878 found me on the road to success, as I thought. I bought 125 hives of Sperry & Chandler and put 51 swarms into them, intending to transfer the bees from the Mitchell hives this spring. My bees were well stocked with honey. I put a wide board up in front of the hives and covered the hives with straw about 3 feet thick, and when the cold and deep snow came I piled the snow on the back part of the hives to keep the wind off. The front of the hives were left so that I could lay the boards down and let the sun shine on them. The Mitchell hives I left on the summer stands and lost 12 of them. Of the 51 colonies in the North Star hives 37 died. The five I have in the double-walled hives are to all appearance in just as good condition as last fall. My profits so far are nothing. My son had 22 colonies in North Star hives. He moved them away from here when the snow came, and intended to cover them, but that night the big snow storm came and it turned so cold that he banked snow up around the sides and back, and they all came out right, except one that lost its queen. The bees attempted to raise another, and had two queen cells sealed over, but they perished before the cold weather broke. Nearly all the bees in this vicinity are dead, and it will be a poor place to sell hives this season.

I expect to attend the National Convention this fall at Chicago, and would like to know whether there is any fee to pay in order to become a member, or whether any one is allowed to attend.

J. P. SPAULDING.

[All are welcome to attend the National Convention, but those who become members pay \$1 a year, which entitles them to a voice in the management and helps to pay the necessary expenses.—ED.]

Hastings, Minn., April 27, 1879.

Bees have not wintered as well as usual; I have lost more than for several winters before. I attribute it more to the house than any other cause. It was built by a neighbor on purpose for wintering, capable of holding over 200 colonies. I lost 10 out of 49. Mr. Morse, the man that built the house, lost 38 out of 52. Rev. Mr. Bosteon put in 65 and took out 31 alive, but many of them very weak, and I understand has lost several more since. Another man, C. O. Ball, put in 6, lost 2. Many of the hives came out very mouldy. Those covered with quilts, with tight bottoms, were the worst. Those wintered in dry cellars came out all right. Rev. J. F. Wilcox, of Northfield, put in 25 colonies, lost none. Also, Mr. Cocayne, same place, put in 42 with same result. Their cellars were very dry and nice. I looked them all over, and never saw bees come out with cleaner hives or combs; not a particle of mould. Mr. Wilcox uses the Langstroth style of hive, caps off, with quilts on, piled up 4 deep. Mr. Cocayne's were mostly in box hives and log gums. They were large

frame hives, with caps on, but openings in the honey boards, all wintered with like results. But 21 colonies of one lot, and 20 of Mr. Wilcox, for another man, examined every hive and know whereof I speak, and as I have wintered for three winters, prior to last, in a dry cellar, I come to the conclusion that there is no better plan, or better way than a good dry cellar. Bees are now doing well. I hope we may have a good season.

WM. DYER.

Tyre, Mich., April 28, 1879.

We had bad luck the past winter with our black bees, losing about 130 colonies. We commenced Italianizing our apiary last summer, and the changed breed survived through our long winter without any loss, under exactly the same circumstances. We have been keeping bees about 10 years, and have held mostly to the same stock. Our last winter's experience seem to show that a change of blood (as we would say in cattle-breeding) is of paramount importance. We commence this spring rather low—16 colonies, 7 of which are hybrids. We have used heretofore a hive after the Langstroth pattern, made from a description in "Quinby's Mysteries of Bee-Keeping." We like it, but think there might be a better one for wintering in. We have experimented with bee-houses, with but poor satisfaction, and have generally wintered on summer stands, with good success until last winter. The trouble with our black bees was dysentery, or, more properly speaking, bee cholera. The hybrids, in their midst, escaped the disease entirely. We shall continue to keep some black bees for comparative experiments, but are convinced of their inferiority.

I. V. SHEPHERD & SON.

Theresa, Wis., April 4, 1879.

The following is my plan for successful wintering, and keeping the colonies strong in the spring. My hives have two stories; the lower one has 9 brood frames 12x12 or 10x14, and the upper story has frames also, for comb honey will not pay as well at 14 or 15 cents as extracted does at 10 cents. I extract from the upper frames only till the latter part of July. By that time the brood frames will be filled with brood. I leave the upper frames on until the honey season is over in order to keep up brood-rearing till October, when the honey in these frames will also be capped. The queens should be superseded before the third winter. Last fall I put them into my cellar Nov. 1st, after putting quilts over the frames. I leave the lower entrances open, keep the cellar dark, and then leave them alone till time to take them out. If mice are troublesome I poison them. If they get uneasy early in March, they need water, and I fill a saucer with fresh water, putting a little salt in it; put a few rags in the saucer and place it under the quilts, so that the bees can get it easily. About March 15th, on a warm day, I give them a chance for a fly for a day or two. If necessary I feed them, and then return them to the cellar till about April 10th; then, if not too cold, I take them out and feed them a little on top the quilt, and put on the upper story; then they will be strong by May.

JOHN H. GUENTHER.

Waterloo, Ky., April 22, 1879.

This has been a very trying winter and spring on bees with us. More than one-half died last winter. Some persons who had from 12 to 20 colonies in the fall have lost them all. Starvation, cholera, and spring dwindling were the principal causes. The season has been very unfavorable until now. A few bright, warm days have started vegetation very fast, and our little pets are improving every moment, yet many colonies are so weak that I am fearful they will make no surplus honey this season. A few of us who read and followed the AMERICAN BEE JOURNAL have done well. I began the winter with 27 colonies and lost 6. I have sold 6, and now have 15, all Italians. Bees wintered better in Langstroth hives than any other. My hives are similar to the one recommended by Professor A. J. Cook, with frames 10½x12 in.

L. JOHNSON.

Bairdstown, Texas, May 8, 1879.

Yesterday I found one young queen with the old mother in the same hive; she was concealed in a festoon of comb-builders, who I suppose were guarding her. A neighbor claims that he frequently finds four or five at one time in a hive. This is a digression from the theory of authors on the subject. What do you think of it, Mr. Editor?

W. A. MILLING.

[Usually only one queen is tolerated in a hive, still this rule is sometimes exceptional. We have often published reports of more than one fertile queen being found in a hive. You are evidently in error in deciding that it is opposed to the theory of our authors. Vogel says: "It is nothing uncommon for two fruitful queens to be allowed to live together," "The exceptions prove the rule." A queen more than 2 years of age is quite frequently assisted by her royal daughter.—ED.]

DeKalb Junction, N. Y., May 17, 1879.

I finished setting out the bees April 28, rather earlier in the season than common. I found one starved and one queenless, and in about 10 days after all were out one deserted. This is my loss up to date, out of 121 colonies that I put into winter quarters Nov. 14 and 15. I think I never saw so fine a lot of bees at this season of the year.

IRA BARBER.

Mt. Clemens, Mich, March 5, 1879.

I unearthed the bees in Davis apiary April 22 and found 31 colonies living and 22 dead. I think they used considerable honey. This lot of bees were buried without ventilation. A portion of this pit was protected by a building on the west which I think was a damage, as the ground was more damp than it was where it lay out in the open air. I think that the pit should be in the open air, and the bees buried in a good depth. Fruit trees are in full bloom now. If the weather continues fine the bees will likely store considerable honey from the present bloom.

WM. P. EVRITT.

Correspondence.

For the American Bee Journal.

Management During June.

G. M. DOOLITTLE.

Apple trees bloom with us from May 25th to June 1st, and as there is no danger of robbers during its bloom, we take this opportunity to get all drone comb out of the hives so as not to raise a quantity of useless consumers. What drones we do raise we prefer to raise from a choice Italian queen, and not from our whole yard promiscuously. The saving of honey, by doing away with as many drones as possible, makes quite an item in cash to the apiarist. So, to make a sure thing that the bees do not build drone comb again in place of that which we cut out, we fit a piece of worker comb in place of the drone. After apple blossoms there is with us a scarcity of honey till clover blooms, which is usually about the 12th to the 15th of this month, when, if the bees get honey from it, we put on boxes to all that are strong enough to work in them. Remove the packing at the sides, and put in one tier of side boxes and those on top, leaving the other tier at the sides until the bees are well at work in the first tier, when we push them back and place the empty boxes between them and the brood-chamber so as to incite them to greater activity.

If you do not wish to unite the weak colonies as stated last month build them up as fast as possible to strong colonies by spreading the brood, or giving them brood from the stronger colonies. When all are strong, put boxes on all of them. We neglected to say while speaking of apple blossoms, that then is the time we take to get our white comb for starters. Remove a frame from all the strongest colonies (if it contains brood give it to weaker colonies), and insert an empty one in the center of the brood-nest. Go to these colonies every four days, and cut all the comb built till the bloom is over, and if the weather has been favorable, you will have a nice stock of splendid comb for starters. You will also get some white comb that is nice for starters while cutting out drone comb.

About June 20th swarming commences in this locality, and as basswood is our main honey crop, opening from July 10th to the 15th, swarms issuing June 20th are early enough to take advantage of basswood bloom. In fact, they are a little too early, as such swarms

frequently fill their hives and a set of boxes partly full, and then swarm in the height of basswood, thus cutting short the yield of honey from them. If we could have it just as we wished, we would have all our swarms come from June 27th to July 3d; but as we cannot, we keep them back as late as possible by taking brood from the strongest. To try to prevent all increase, whatever we believe, only results in failure as a general rule, so we will give three modes of swarming, which we consider the best, always bearing in mind, that all swarming should be done up 10 days before the main honey harvest commences. If we wished to double our bees, we should let all our swarms issue naturally, and hive them on the old stand, setting the old colony on a new stand a rod or two away. We have all our queens' wings clipped, and let the swarm hive themselves by returning, we changing hives on the old stand while they are out. Of course it is understood that we find the queen as she is out running around trying to go with the swarm, and put her in a wire cloth cage, and when the swarm returns let her go in with them. If you have empty combs to give the new swarm, put on boxes at once, otherwise wait till the hive is two-thirds full of comb. Mark the date of swarming on the old hive and 8 days thereafter the young queen should be hatched, if they swarmed according to rule,—i. e., with the sealing of the first queen-cell. Open the hive and look for the cell that has hatched, and if you find one from which a queen has emerged, cut off all the rest (if the bees have not already torn them down), otherwise cut off all but the oldest and best looking ones, and afterswarming will be prevented as a general rule, although with us the bees sometimes swarm with the queen when she goes out to be fertilized. Some say cut out cells all but one on the third or fourth day after swarming, but if you do, the Italians will frequently raise more queens from the larvæ in the hive, and swarm the second and third third time. As soon as the young queen in the old hive gets to laying, the bees will go for the boxes with a will, and will generally gather more honey than the new swarm. If we wished as little increase as possible and still wished natural swarms we should hive the new swarm (leaving the parent colony on its old stand) and carry them to the stand of a populous colony which had previously been removed to a new stand. Thus you will see that you draw all the working force from the colony moved to a new stand into your new colony which makes an exceedingly

strong colony, and should have the boxes put on immediately. The colony removed loses nearly as many bees as if it had swarmed, and will rarely attempt to swarm after such removal. The parent colony should have the queen-cells cut as before directed. Another plan, and the one we at present prefer, especially as we have plenty of empty comb, is to make one new colony from two old ones; namely, about 12 days before basswood (or your honey harvest, whatever it may be) go to No. 1 and shake all the bees and queen from their combs into a hive filled with empty combs placed where the old one stood, and put the boxes from the old hive on the colony thus made. Thus you have a strong stock containing all the bees and queen from a populous colony, a hive full of comb and the part-filled boxes from No. 1, they being ready to take advantage of the honey harvest when it comes. Now take the combs of brood taken from No. 1 to No. 2 and set them on No. 2 stand, having previously moved No. 2 to a new stand a rod or two away. Go to your nucleus (all bee-keepers should have nuclei with laying queens on hand at this season of the year. If you don't know how to make a nucleus any of our bee books will tell you) and get the comb the queen is on and take it, bees and all, and shake them off in front of the hive on No. 2 stand, and let them run in. Put on boxes and the work is done. Thus you have a colony composed of a full hive of combs and brood, a good young queen and workers to protect her, and all the working force from No. 2 which make a big, strong stock, and as far as my experience goes, one that will produce a large quantity of honey. No. 2 has a hive of combs and brood, their old queen and boxes partly filled, but have lost their working force. In from 8 to 12 days they are stocked up with workers again and are also in fine shape for the harvest. We have described this plan at length as we consider it the best plan of artificial swarming extant.

Borodino, N. Y., May, 1879.

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For the American Bee Journal.

Wintering Bees in Kentucky.

R. M. ARGO.

Until the past winter I thought I understood every principle necessary to the successful wintering of bees, and that I could safely winter any number of colonies in any sort of winter, in this latitude, on their summer stands. My

experience the past fifteen years had convinced me of this, but the past winter has convinced me to the contrary, and left the subject of safe wintering still an open question.

To be brief, I will just give my experience during the past winter. I had 82 colonies last October; some of the strongest, I let alone. The rest I protected in different ways, but left all on their summer stands. I would here say that we only have about one such winter in twenty-five years. Consequently it was unlooked for; else I might have protected them and lessened the loss. The result of this experiment was that down to the first week in March 19 colonies—over 20 per cent.—was gone.

Some left plenty of honey; some with plenty to have wintered on, but out of their reach; some had starved, but all had left large clusters of bees, and one of the unprotected colonies had left honey enough to winter two colonies. All had the winter passages, and the loss was equally among the protected and the unprotected. None had upward ventilation except absorbent ventilations through quilts and chaff.

Last October I prepared 4 colonies for winter for a neighbor in the old Quinby hive, containing 16 frames and partition boards. These four colonies stood about 20 inches from the ground on the north side of a steep hill, exposed to the cold north wind. I left them about 25 lbs. of honey; cut winter passages, and adjusted the top and honey board so as to fasten up all upward ventilation. On April 21, I went up to transfer them to new hives for him. I expected to find them very weak, if not gone, but to my no little surprise I found each of them very strong in bees and honey, and with live drones, the first I had seen this spring. They had consumed very little honey, and three of them had managed some way to get ventilation on the top. Two of the colonies had made an entrance at the top. These old hives were 20 in. square, 12½ in. deep, and had good inch bottoms and partition boards, though setting at a very cold, exposed place for winter. They were under a shed but had very little protection against the winds. I have wintered 4 colonies in a box 5 feet square and 2 feet high, for eight years, with entire success. I think if a stand was put in a dry-goods box it would winter safely.

The long protracted winter was doubtless the cause of the loss, in not giving the bees a chance to fly out for seven weeks at a stretch here, and only one or two days in nine weeks.

Lowell, Ky., May 6, 1879.



For the American Bee Journal.

Honey as a Staple Article

BY JAMES HEDDON.

Every bee-keeper who has had any experience with the marketing of a crop of honey, knows full well, that notwithstanding some dealers and producers have worked hard to make the article somewhat staple and uniform in price, no such thing has been done. I conceive that if honey had no flavor, and as little color as possible, that it would then stand upon the merits of its sweetening powers, and would at once have a regular demand at a fixed price, the same as sugar, syrups, etc.

Now, from the experience I have had with clear honey, I believe that it would be a very simple job to erect a refinery that would quickly, surely and cheaply remove the flavor and bring nectar to any desired consistency of flavorless honey. Then the business of bee-keeping would largely turn to producing nectar (not honey) for the refineries to make into honey syrup. We should then for the first time see bee-culture on a solid and respectable basis. An apiary would be as salable as a store or a mill. Capital would look with favor upon it.

How is it now? If you find one who desires to "keep bees," he has probably caught his enthusiasm from some modern bee book, patent hive vender, or supply dealer, nearly all of whom make it a business to talk up the smooth side of the business, somewhat stretched, and in order to make the unknowing heart beat faster, they say "hardly any capital required," and the consequence is that almost all who try honey producing for a business fail, and those who do not fail, soon see how much better it would have been to have first gathered their knowledge and then started with a capital equal to that knowledge and becoming to a man of some enterprise, and to start just where some one of years of experience leaves off.

I find it very easy to sell a few colonies of bees to almost any one who has a proper mixture of enthusiasm and money. It is just about as easy to foretell the future of that apiary. It is sometimes hard work to dissuade poor and needy men from paying out their last little surplus for one or two colonies of my bees. Last winter was another of the fatal ones in Southern Michigan, and just now I fail to put my mind upon a single person who has not been a loser who has tried bee-keeping in this county within two years. I have taken pains to inquire into the exact condition of colonies that have lived and

died about this county. I am still getting at the facts, and in a future number will give them. I think about three-fourths are dead, and many more are weak. It is a beautiful morning, and the bees make merry music, and of course we hope to get a good harvest.

Dowagiac, Mich., May 12, 1879.

For the American Bee Journal.

Hints on Robber Bees.

J. O. SHEARMAN.

We read in the books: "to stop robbing, close up the entrance, so that only one bee can pass at a time"; rather a close rule for all colonies, as they can not clean out very well through a small passage, and large colonies will not get air enough. When they are trying to rob, lean a board over the entrance; if that is not sufficient, cover the hive up, till the bees stop flying and examine, if they have a queen and enough bees to hold their own, and if the robbers have not started a "rum" on them, proportion the size of the entrance to the colony, and they *may* hold out. But for extreme cases, when bees come tumbling out of the hive, daubed with honey enough so the outsiders will lick them off, then look out. During the warmest day in March, while going around to see how the bees were flying, I noticed they had commenced robbing by crowding in, by force of numbers, and begun to carry off honey from 4 colonies. I covered them up with straw.

I used the straw because it was nearest at hand. I have sometimes used a blanket or sheet. They did not make much headway robbing through the straw that day, and near night I went for No. 24 and found a laying queen, brood, and plenty of bees—in fact it was a strong colony. So I put in a wire doorway (same as for moving) and kept them in all next day. As there was not daylight enough to examine the others, in the evening I dug a hole by the side of two others and put each one in, let them stand till morning, then covered with boards and earth, and they are there yet. Next morning the robbers came but were disappointed. When fine weather comes I will set them out, watching my opportunity. The fourth one was smaller than the others, but healthier and in fewer frames, thus defending themselves better. Early next morning I looked for their queen, found them in good order; they took care of themselves with a small entrance and a board leaning over it.

New Richmond, Mich., March 20, 1879.

For the American Bee Journal.

Natural and Abnormal Swarming.

CHAS. DADANT.

To migrate or leave home, in search of a better abode, is among the necessary faculties of nearly all animals. Man is not an exception to this law. This migration is always provoked, either consciously or unconsciously, by some uneasiness, such as the lack of the necessities of life, the narrowness of the home, or by some other defective circumstances.

The human race shows, in past history, and even now, constant examples of migration. When these migrations include a great number of individuals they are called swarms. The bees, the ants, the locusts are said to swarm. These migrations are the result of the same law which governs the changes of residence of all the other kinds of animals, bees not excepted. I know that this assertion is not in accordance with the notions generally accepted by beekeepers, or, at least, that my idea never has been taught as absolutely as I suggest it; most of the writers having taught that swarming is the process by which bees increase the number of colonies, and some authors having even gone so far as to compare swarms to the fruit or seeds of a tree; but I think that I can sustain and prove the assertion, that all swarming of bees is the result of uneasiness.

No kind of animals shows more love of home than bees, yet every old beekeeper has seen bees leaving their hives in early spring, long before the swarming time. For instance, when bees have wintered in the cellar, as soon as the hives are put on their summer stands, it happens that some colonies desert their hives and go in quest of a new home.

I have noticed that such is the case when their stay in the cellar during the last days or weeks has been attended with uneasiness, either from a desire of voiding their faeces or from anxiety to go out—anxiety aroused by a too high temperature of the cellar. The bees, as soon as at liberty to fly, hasten to leave a habitation where they have suffered.

When a colony has been sick with dysentery and has stained its combs, the bees are apt to abandon the hive in quest of a cleaner abode. If, after cleaning the hive and giving them dry combs, we return the colony to the same hive, they will usually remain.

Now and then, at a time when there is no indication of swarming, we notice that a colony has departed from its hive, leaving honey and brood in every stage

of growth in clean combs. If we look in the empty combs, we will notice that there is no pollen. The bees, being unable to raise brood successfully without pollen, have swarmed, rather than witness their brood perish. Generally, late natural swarms of the preceding year are those to which such accidents happen, because they were unable to provide a sufficiency of pollen for the spring. Such swarms, unfortunately, are not very rare. By giving them a good comb with pollen, we can return them to their hives, where they will stay, the causes of their departure having disappeared. These unseasonable swarms are called, in France, "swarms of Easter," on account of the time in which they happen.

Nobody will contradict that all these kinds of migration are the result of the uneasiness of the bees, which have thus obeyed the great law of nature impressed on every race of animals, to hunt for another abode in view of finding more happiness.

Some bee-keepers will object, that while these swarmings are the result of the miserable circumstances in which the bees were placed, it does not follow that what is known as natural swarming is the result of uneasiness; that natural swarming not only perpetuates, but increases the number of colonies. I beg here to say, that another undeniable law of nature is that the faculty of reproduction of all living beings, plants or animals, is in proportion to the surroundings in which each kind is compelled to live.

If a race is in the best circumstances, the individuals of which it is composed will live a long life, therefore, as the race has very little chance of disappearing from the earth, its prolificness decreases. If, on the contrary, a race is compelled to live in straitened circumstances, as it incurs the risk of ceasing to exist, its fecundity increases.

A young vigorous tree gives very few fruits; a decaying one is covered with flowers in spring. A flowering plant, too, well cared for, doubles. The organs of reproduction, stamens and pistils, disappear and are replaced by petals. A too fat animal is not so apt to reproduce its species as a lean one. Some rich married couples, too well fed, cannot have the joy of being blessed with children, while their poor neighbors have more children than they are able to nurse. A colony of bees, hived in a narrow box, incurs the risk of being unable to store honey for winter, it swarms; while a colony placed in a capacious hive, having no such risk, remains for years in the same abode.



without swarming. A too narrow apartment is the main cause of natural swarming. Too much heat is another cause. We can, therefore, in a great degree prevent natural swarming by furnishing our colonies with large hives, and providing them with an abundance of air and a protection against the too warm rays of the sun. Of course the large hive itself will not always be sufficient to prevent natural swarming unless we enlarge the room in time—I mean before the colony, having filled all the combs, begins to suffer from lack of room. I know that there are numerous exceptions to the law that I have written above; for although we have tried to prevent altogether the natural swarming of our bees, never have we been able to obtain less than two or three swarms every year in our home apiary, numbering about 100 colonies.

I think that I can trace the causes of these uncalled for swarms. The extreme longevity of the queen is about 5 years, or 60 months. It follows that in 100 colonies the death of 2 of the 100 queens will occur every 6 weeks. If we add that spring is the season of fatigue for the queen, as well as for the bees, as she works, depositing eggs, more in the spring than in any other season, we will understand how it is that, even with all young queens not older than 3 years, 2 or 3 of our colonies lose their queens during the honey season. Besides, it happens that we sometimes maim or kill a queen in visiting our hives.

Of course, after these deaths the bees hasten to make queen-cells on several combs. But as soon as a queen has emerged from her cell, the bees, that have built and nursed the other queen-cells, are not ready to destroy them—if the honey crop is abundant in the fields—or to let the newly-hatched queen slay the others. The colony is then in the same condition as a colony which has swarmed and desires to send an after-swarm; the more so, because it is in full force. This is the most frequent cause of swarming in roomy hives.

But some bee-keepers know that in some seasons bees swarm even with their hives half full of combs, and that, too, while their queens have remained alive and in good health. I have noticed such swarmings, which occurred during seasons of scarcity of honey. The brood was very abundant, filling all the combs; the bees seemed unable to find more honey than was necessary to keep the hatching bees and the brood alive; they had none of it to put in store; they were crowded in the brood-chamber, and had nothing to do in the upper

story. Under such circumstances, who would dare to affirm that the bees were not tired of inhabiting a locality where they had no chance of surplus for winter; or that they were able to provide enough of pollen, or of honey, for the brood?

I have studied this question of natural swarming very closely. I have experimented with all the means indicated by the authors in bee-culture, to prevent natural swarming. I have partially succeeded by dividing my colonies; but as a colony and its swarm do not gather as much honey as if it had remained whole, I have abandoned this method. I have tried the perforated sheet-iron, contrived by Abbate Collin, of France, to prevent the queen from following the swarm. I have tried, also, the queen-yard of Quinby, from which the queen, with clipped wings, could not fly out. In both of these experiments I have obtained the same result: the killing of the queens by their own bees. Then the colonies have swarmed with virgin queens, as soon as these newly hatched queens were able to fly; and the crop of honey suffered during all these preparations, on account of the dissatisfaction of the bees. Now, I have every confidence in the method that I pursue, for I have tried it for a long time. For 10 years, with one exception, the number of natural swarms did not exceed 3 per hundred in our home apiary. To obtain this desirable result we use Quinby hives, enlarged to 10 or 11 frames before the swarming season, and covered with a second story holding 10 small frames, furnished with drone comb or comb foundation. With such hives, and, if necessary, a third and even a fourth story, we control as much as possible natural swarming, directing the full strength of our strongest colonies to the production of honey, and using all the colonies too weak to procure honey, in rearing bees to make artificial swarms.

From the foregoing it will be seen that our management of bees is quite different from the method described by our successful friend Doolittle, who gives preference to small hives furnished with small frames, while we prefer the large frames in the largest hives. Mr. Doolittle works mostly for comb honey, we for extracted; hence the difference in our management. Yet, as I cannot accept without protest his condemnation of the large hives, I will try to give my views on this question in a subsequent article.

But before entering on this new field, I will conclude with this *resumé*: Swarming is always the result of some want,

or of some uneasiness of the bees, therefore, a colony of bees will not swarm in the following conditions:

1st. As long as its queen is alive and healthy.

2d. If its combs are dry and clean.

3d. If it is always furnished with sufficient room for the queen to lay and for the bees to store honey.

4th. If there is always in the hive a provision of pollen and honey sufficient for the needs of the brood and of the hatching bees.

5th. If the heat of the inside of the hive is not sufficient to compel the bees to remain idle, inside or outside.

Hamilton, Ill., February, 1879.

For the American Bee Journal.

Plea for Pure Honey.

LEE EMERICK.

That time has arrived when it becomes necessary that all honey producers, who desire to make their business profitable in a pecuniary point of view, unite in their efforts to suppress the adulteration of honey, both comb and extracted, and their first effort should be made in their own apiaries. To avoid all that has semblance of fraud or adulteration, in feeding colonies in spring or at any other time, would it not be better to feed pure honey, though it is worth more than sugar or glucose. It certainly would prevent the accusation of adulteration by the purchaser of the honey.

Only a few days ago the writer of this was told by a neighbor of Mr. D., who is one of the largest bee-keepers in the country, "that Mr. D.'s honey was not pure, that it all turned to sugar." The writer suggested that pure honey often candied or granulated. But said he, "I have often seen Mr. D. feeding his bees, and he fed them sugar; and I don't want any of his honey." Now if he had only known that Mr. D. had used artificial comb, would he not have been more vehement in his denunciations?

And on the account of the accusations that can and will be made against comb-foundation, it is an unsolved question whether it will prove a blessing or a curse to the honey producer. The present price of honey in our commercial markets proves that about all the honey that can be sold at a remunerative price is being produced, and if the production be increased without a corresponding increase in the demand, the inevitable result will be lower prices, and the abandonment of bee-keeping by many, and does not the use of comb-foundation increase the produc-

tion, and at the same time lessen the demand. Will some other than a supply vender answer?

The AMERICAN BEE JOURNAL, by its fearless exposure of fraud, its efforts to prevent adulteration, and its untiring work to advance apiarian science, merits the thanks and patronage of the bee-keeping fraternity.

Harrisonville, Mo.

For the American Bee Journal.

A Voice from Northern Michigan.

L. C. WHITING.

Bees have wintered very poorly. The average loss where they had no winter protection has been half. Circumstances prevented me from packing as I intended; they were left where they stood during the summer. Sixty colonies had quilts over the frames, and the caps filled with straw, so arranged as to give slight ventilation through the straw; 48 of these came through all right; a few had the dysentery, apparently caused by having too much ventilation; 35 colonies that had honey boards over them, with no ventilation above, were all lost. A large portion of the 35 were in good condition up to and through the first thaw. They flew well and strong and had less dysentery than those with upward ventilation. I account for the great loss in this lot by the frost melting, making the combs very damp, the water closing up the entrance with dead bees and ice, so that they had no air. A few packed in the same way where the covers were loose enough to let in air came out all right. A large portion of this loss of 35 had sealed brood and other evidence of prosperity. All had plenty of honey.

One row of 30 colonies with straw in the caps faced the south, and not one was lost. The others faced east and west, in about equal proportions; loss about equal, but those facing the west were found in the best condition. In examining the colonies in the fall, to see if all had their due share of honey, some unsealed honey was found, and was placed in the strongest colonies. All the colonies in which this uncapped honey was placed, suffered with dysentery.

All this loss in my case could have been prevented had I packed them as I intended, and a very large portion of it if I had raised every hive on the first thaw so as to let the frost melt out without leaving the bees damp, to be frozen up with the first cold weather. Bees properly packed or in cellars have wintered well.



I want to say to those who have not bought smokers to get the largest sized smokers (hot or cold blast is of no account); I speak of this because I have had experience with both, and find it a great annoyance to have the smoke give out when it is wanted most. I like the Bingham the best, but any kind will do if large enough.

There is one fixture that I want, and that is something that will enable me to turn the Langstroth frame bottom side up, so that when clover and basswood cease to yield honey, the frames can be turned over, and if done a little before the honey ceases to flow, the bees will uncap the honey in these frames and carry it up into the boxes, and in place of honey the frames will be filled with brood for the fall harvest, and the honey be in good marketable shape in the boxes.

My experience has been that the dollar queens, if reared from imported mothers, are as likely to be good as any. By waiting for them to be tested the season is past before getting them. Some of the best queens I ever had were small. I prefer to buy more queens and weed out the poor ones than to pay a high price and have to exchange. All the old queen breeders know the importance of rearing queens from good stock, and if so reared you cannot test them without placing them in a good colony of bees. I have paid as high as \$8.00 for a queen, and the same season bought a better one for \$1.00.

East Saginaw, Mich., March 13, 1879.

For the American Bee Journal.

Wintering Bees, &c.

R. S. BECKETT.

The past winter has been a very severe one on bees—nearly everywhere we hear of losses. I believe fully one-half of the bees about here are dead; they all died of dysentery, which was in nine cases out of ten caused by confinement, in severe cold weather, to the hives for a long time on combs of honey that were more or less sour.

Last season was wet and cool in many places, and the result was our clover honey soured in the hives. The old colonies that cast swarms in June are the ones that suffered most; they swarmed and left unsealed honey which soured. I have seen honey sour even in good, strong colonies. When it rains about every other day in June, you must expect poor honey; it will be so thin when it is first gathered that it never will be as good and thick as it is

in a favorable season. My advice to all, is to keep all colonies strong; don't divide your bees to death when the honey is liable to sour and your bees die the next winter and spring. As we do not want any more sour honey in the market, please do not extract your honey till it is all capped over, and if the yield of honey is not too great, so you have room in the hive, it would be better to leave the honey in the hive for a week or two after it is capped over, for it gets thicker and better after it is capped over.

I never extracted any honey till it was fully two-thirds capped over, and yet, about three years ago, I had some clover honey that was "more or less sour." C. O. Perrine would not believe it was clover honey, but I know it was for there was nothing else for the bees to work on. I did not extract any of the clover honey that year (1876) till I saw the basswood was a failure, then I extracted it from the 17th to the 20th of July. I do not claim that poor honey is the cause of the loss of all our bees; but it is the main cause. Weak colonies cannot stand long cold winters as well as strong ones. The season was too cold in September last, so the bees did not breed good, and then it was too warm in October and November, so the bees died off till they were only about half as strong as they should have been on the first of December. I believe some think that if the old bees do not die off in the fall they will before spring, but such has not been my experience. Old bees will live a long time in cold weather, and they help to keep up the necessary temperature in the hive. I have succeeded best in wintering bees on 8 combs that have fully 30 lbs. of honey in them, and the upper story packed with straw, and left on the summer stands unprotected in any other way, except that they were nearly covered up for a while in December and January. I left two colonies without any quilt, straw, or honey-board in the upper story, and yet they wintered, and are now in fair condition. They were fair colonies last fall, and had the hives full of as good honey as a poor season could produce. I had three colonies smothered from want of upward ventilation; ice froze in the entrances.

One great cause of mortality among bees is too much pollen; it stimulates the bees to breeding in winter or early spring, and if there is much very cold weather afterwards the bees and brood will be injured or entirely destroyed. Especially is pollen detrimental to the bees if much of it is left unsealed in the fall, as is sometimes the case, when

there is a scarcity of honey in September. I do not find that bees die so much from eating thin fall honey as from eating sour clover honey. I lost just one third of my bees; and those I shipped off in November and December nearly all died, because "they were disturbed to death." Do not buy or sell bees after September 1st.

New Buffalo, Mich., May 6, 1879.

For the American Bee Journal.

My Recipe for Bee Food, &c.

W. M'CRACKEN.

Analysis has shown the principal elements of honey to be water, sugar, vegetable acid, mucilage, coloring, flavor, and a little extractive or volatile matter; the minute principals, gum, resin and bitter, and in some instances a little piperine. I would suggest that apiarists raise the money necessary to make a perfect analysis, and place the work in the hands of Prof. A. J. Cook, who will give an honest specification, as he is an interested party. He should take three or four grades of honey—basswood, clover and buckwheat—all of first quality, mix them thoroughly together, and from the compound make his analysis, and give a formula for artificially making 100 lbs. Individually, a fortune might be made from establishing a correct system of feeding bees with proper food. I have intended to do this, but from want of money have been obliged to abandon it. Here is my recipe for bee food, as near as I could determine without specific analyses:

Take 4 quarts of strained mucilage, made from the young green pods of okra or slippery elm bark; it should be made in a tin or granite ware vessel, as iron will blacken it; to this add 12 lbs. of clarified sugar, slowly bring it to a boil in water or a sand-bath, then set it off the fire; to 1 pint of water stir in 1 ounce of citric acid, until dissolved; stir this in the syrup thoroughly, then put in an ounce of alcohol, to which 4 drops oil of sassafras, 10 drops oil of lemon, and 15 drops extract of vanilla have been added; stir in well, then add 3 lbs. of natural honey and the white of 1 egg beaten to a froth; stir it well; when it has cooled down to a natural temperature, stir in pure cold rain water until the proper consistency is obtained.

My observations have led me to believe that bees secrete more wax from some kinds of food than from others, and when they have no comb to make or repair, the wax is shed while on the wing, and that dropped from their bodies in the hive is swept out, or picked

up and carried out. Wax is an excrement, one of the results of digestion. Honey which crystallizes exhibits a want of acid and water; that which ferments is lacking in sugar and mucilage; there is rarely ever an excess of acid in natural honey; acid prevents crystallization and evaporation.

To catch an issuing or flying swarm, I set up a rod about 12 feet long, upon the top of which is a hollow globe mirror 4 inches in diameter; underneath the globe is a large sponge saturated with water, sweetened with honey flavored with extract of lemon and otto of roses; the rod has a smooth socket-joint under the sponge, so when the bees are laid on a portable table, the rod is drawn away and the bees covered with the transferring box, connected by a tube to the hive intended to retain them.

Houston, Texas, Feb. 16, 1879.

For the American Bee Journal.

Action of Honey on Glass.

W. O. CARPENTER.

In reply to Mr. W. R. Edwards' remarks, that the honey he supplied one of his customers decomposed glass jars into which it was placed, I beg to suggest the only two causes that could have occasioned it—being an old glass-maker I know something of the nature of the material. First, nearly, if not quite all, the glass-ware in this country are blown in a mould, the metal is gathered at the end of a pipe, placed inside of the mould while red-hot, and blown until it fills the mould; the consequence is, the metal being sometimes unequally blown, one part of the article becomes thinner than another, and of course very easily broken through; you may observe this frequently in your broken lamp glasses, one part being perhaps $\frac{1}{4}$ of an inch thick, and another as thin as paper; the same thing occurs in your bottles, the part round the shoulder often breaks off; all arising from unequal gathering. The second cause may possibly arise from an excess of glucose being in the honey, the glucose having calcium or lime with free sulphuric acid; this combination would produce fluoric acid which has a strong affinity for glass, and would soon corrode it, but then the effects would be visible on the surface of the glass, and Mr. Edwards states "the appearance of the glass was not changed." This brings me back to my first idea that the glass vessel was of uneven thickness and admitting of a knife being pushed through it.



When glass is made with an excess of alkali, it sometimes what is technically called "sweats," that is an efflorescence or escape of the alkali is discovered on its surface; and after a time the glass becomes eaten away into small pin holes; you will see this in old church and cathedrel windows; but it is the work of time, and could not occur in the glass jars Mr. Edwards speaks of. Lawrence, Kan.

For the American Bee Journal.

The Alarming Diseases of Bees.

MOOSH AMIEL.

The reports from a large portion of Michigan are most unfavorable and discouraging; three-fourths, if not more, of the bees in large portions of the State are dead. This State is not the only one where the same disease has caused their destruction, neither is this the first season that large portions of the United States have been thus afflicted. Foul-brood has at times visited portions of Europe and the United States, and was really an alarming disease. Those who knew it, feared it exceedingly; as evidence of this our lamented friend, the late Samuel Wagner, had one colony attacked, and on visiting his friend at Baltimore, refused to visit his (Colvin's) apiary the next day for fear there might be something about his person or clothing that might, by the remotest possibility, convey the disease; those who had a colony with the foul-brood washed their hands and tools after handling it, before approaching a healthy colony. If reports that we dare not dispute are true, simple remedies have been found to eradicate it and save the bees, hive and combs.

Now in comparison with the dysentery, the foul-brood is not *one hundredth part as destructive*, because comparatively but few apiaries seem affected. At the National Convention at Cleveland, O., but some five or six reported its presence in their apiaries; now if a report from but one town in many portions of Michigan were made, *ten times that number would report dysentery!*

Some years since when this same disease swept over a large portion of the Northern States, in many counties but occasionally a colony or an apiary escaped. At our State Conventions many thought it was caused by extreme cold and long winters; if that were the cause, in Vermont, Maine, Northern Russia, Siberia and many other colder countries than Michigan, bees could not be kept without annual importations! Again, if it was caused by long cold

winters, why have many lost their entire apiaries that were *properly housed in special depositaries*, with the mercury never below 30° or above 44°? Some of these colonies were attacked before the 15th of January, and perhaps all dead before the 1st of March!

Again, the cider-mills have been charged with having been the cause; but thousands of colonies that had dysentery were quite out of the reach of these mills!

It has been confidently asserted that it was because the fall season was wet and cold, and the honey too thin to be capped over, but last fall, and for several years preceding the autumn was dry and long, from the complete close of the honey gathering till December!

I think that few, if any, will assert that old bees are the only ones affected; that an old bee will not live eternally is more than probable; but it is doubtful whether young bees can endure more poison than old ones!

But what is the cause and the preventive? Is not the cause of the disease, what is called honey-dew? Many of our best informed apiarists are of that opinion. If that be so, what is the preventive?

Bees were attacked in this location by the 15th of January, perhaps before. About the 1st of March we had several as fine days as could be wished, and the bees flew, and they have had many such opportunities since, but still they are dying daily with dysentery and this with nothing but sealed honey, made in the early part of the season. The hives were cleaned about the 1st of March and the bees made as warm as possible.

I believe with Prof. Cook, that "dysentery is always caused either by poor food or by damp atmosphere in the hives," and "that good food and absorbents are the preventives"—I will add: if they are not too cold or too warm and are kept quiet. All of these have been provided a thousand times, except the good food, and still the bees have died!

The question is, "how are we to know if they have good food or not, until as Mr. Quinby says, we learn from a post-mortem examination." This is the very gist of the matter under consideration. Many know how warm, how cool, how dry they should be, and what are good absorbents. Is any upward ventilation needed, or should it be permitted? A little lower ventilation, to let the carbonic acid gas flow out, is necessary, according to the late Prof. Kirtland.

But how are we to know in the fall if our bees have good food when it is al-

most, if not quite certain, that this poison, honey-dew, is gathered in *spring, summer and fall* and about as certain that it is sure death to bees? I know of no way to determine whether a colony has gathered honey-dew; others may. Sometimes we see them carrying it in; but many times it may be carried in without our knowledge.

Is it safe to extract all of the honey in the fall and substitute some known good food—pure candy as suggested by Mr. Langstroth, say candy made of sugar and flour as suggested by Mr. Wilkin, formerly of Cadiz, Ohio; or a properly made sugar syrup? Many have fed for a short time with the candies and some have tried sugar syrup to ward off dysentery, but with what success I have forgotten, if I ever knew. Mr. Bidwell, our late President, of South Haven, Mich., placed many colonies in vacant hot beds with apparent success, but since that time I have heard no more of it.

I have been a sufferer to the number of 80 colonies with dysentery and 140 with foul-brood, and would like to hear from others on these suggestions.

Wayne, Mich., April 14, 1879.

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For the American Bee Journal.

Bees in Albany Co., N. Y.

G. J. FLANSBURGH.

To show the mortality of the past winter and present spring up to date, I will give results of nine bee-keepers near here, the farthest being about 3 miles distant. They went into winter quarters with 148 colonies; their numbers varied from 2 to 60 each. Out of the 148, only 32 are living, and some of those are weak and in all probability will not survive the late cold spring.

The causes of this great mortality are obvious. In the first place bees ceased to breed here about the last of August; there being not enough fall flowers to encourage them to continue later. All through the fall months they were like hungry fowls. Honey could not be exposed with safety at any time. Thus many colonies went into winter quarters weak, and with bees too old to perpetuate until the breeding season. Following this unfavorable fall was a protracted cold winter; the bees being confined to their hives from December until near April and being obliged to eat on the borders of cold frosty honey, which thinned their forces, causing pressing necessity to discharge; the weather continuing cold and unfavorable for a purifying flight, and as a last

resort those suffering most from want of animal heat or warmth, daubed up their combs and wetting one another, soon died.

The few that have survived thus far, are generally in a backward state. As the spring thus far has also been cold and unfavorable for breeding, many colonies that are weak do not breed sufficient to compete with the number of old bees dying off daily, and so losses are yet to be expected.

The apiary that I have charge of, went into winter quarters on their summer stands with 69 colonies; 12 died; the remainder, 57, I have reduced to 40 (one yet being weak) by uniting the weakest ones, on the first warm days of their flight. There are many colonies dead which could have been saved, if this method had been taken.

Bethlehem City, N. Y.

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For the American Bee Journal.

The White Sage—Large Yields, &c.

WM. MUTH-RASMUSSEN.

The engraving in December number for 1878, does not represent the white sage of California, but illustrates the plant called ball sage, or blue sage, or sometimes black sage in contradistinction to the white sage. The blue or ball sage blooms earlier than the white, the flowers are only one-half or one-third the size of those of the white, and of a bluish color, while those of the white sage are pure white. The flowers are similar in construction, but the stems and leaves, and general appearance of the two plants are entirely different. There are other varieties of sage here, which however are not frequent enough to come into consideration as honey resources.

It is claimed that the honey from the blue sage is clearer and thinner than that from the white. The blue sage is not as abundant as the white, but is beginning to spread out and take a foothold in places, where it formerly was very scarce.

In last February number, page 78, M. S. Baker states that one colony gave 1000 lbs. of extracted honey, besides 14 swarms. This is a mistake, unintentional probably from Mr. Baker's side, but gross enough to be corrected. Mr. Claussen, the owner of the bees, told me, at a recent visit to his apiary, that the 1000 lbs. were from the parent colony and the increase. Good enough even for California.

The bee-keepers here are agitating the question of putting their extracted



honey in new cans and cases, knowing full well the objections to the coal-oil cans, formerly in use. A cubic can, made of 12x12 inch tin and holding about 80 lbs. seems to be preferred to either smaller or larger cans for the general trade, while some favor 25 gall. barrels, principally for exportation to Europe. Success to the AMERICAN BEE JOURNAL.

Los Angeles Co., Cal., March, 1879.

From the Journal of Agriculture.

Wintering Bees.

N. CAMERON.

A peculiarity of the honey bee from all the other insects is that they do not hibernate in a torpid condition. If they did, this vexed question of wintering would be removed from the field of discussion.

Of late years there has appeared a disease generally called dysentery, that destroys whole apiaries, and some seasons half or more of all the bees in the country. This disease and its cause have been discussed scientifically in the bee papers *pro* and *con* for years, and yet we are about as much in the dark as ever. Leading apiarists differ as to the cause and cure. The late M. Quinby ascribed it to the severe and cold winds, many others ascribe it to uncapped honey, and still others to unwholesome and sour honey. Hence we have the various remedies to meet these various conditions. Protection from the winds, extract in the fall all uncapped honey, also extract all unwholesome honey, and feed with sugar syrup, if there is not enough left to winter on. I might say in this connection that some think honey-dew is unhealthy to winter on. We will have an opportunity to test that this winter. What I know about the dysentery is that I had 80 colonies of bees one season in the fall, and the next spring had only 13. Before that I had been claiming that bees could be wintered with as much certainty as any other live stock, but that effectually took the wind out of my pretensions. My great hobby then was to put bees in a dark cellar that was frost-proof. Since I have wholly abandoned cellar wintering as being non-essential in this climate, and doubt whether it is in any. I know that a colony of bees so small that they will actually freeze, is practically worthless any way, provided they were kept through the winter by nursing, they would be apt to dwindle away in the spring.

While it is necessary to have empty

comb or space below, it is absolutely essential to have honey directly above the cluster; especially in all latitudes where there is any liability to be protracted cold. But it has been my observation that there is a space secured sufficient for the cluster from the time that frost cuts off the honey supply till the weather gets so cold that it would be dangerous for the bees to remain between the combs full of honey. So that it is my belief that there is very little doctoring needed to winter bees. The essentials are good strong colonies and plenty of good wholesome honey directly over the cluster, and a protection against the cold winds would do no harm, also protect your hives from the sun's rays on all days that the thermometer is below 60°, otherwise, many times bees will be enticed out by the warming of the hives, when it is so cold that they can never return. The season that my bees suffered most from dysentery they were short of honey in the fall, and worked a great deal on decayed fruit and on grapes, and while it is our opinion that it is the juice of fruits or thin honey that has soured and is the cause of dysentery we are not positive but there are other things that cause it; it may be certain kinds of honey, and as far as we can see are all right. And while we have no specific for its cure or prevention it would do no harm to keep your bees as much as possible from the juice of fruits in the fall of the year, especially if their hives are not well filled with honey, for then they will be all the more eager to gather anything to store. But if bees are taken with this disease, we are satisfied that the most profitable plan for the bee-keeper would be to clear out every hive in which the disease is certainly established, destroying the bees, and saving the comb and honey for use next season.

Lawrence, Kan.

For the American Bee Journal.

How Bees Mark their Location.

F. P. TURNER.

I am a "bee-keeper" on a small scale and handle only Italians. I consider them better than the blacks, in every respect, for this latitude. I have for the last two years been very closely confined at book-keeping, and in order to pay more attention to my bees, placed the hives above my office—in the end of the store—and bored holes through the planks to let my bees go out. They have done finely and I have found them profitable. The latter part of the summer the house was white-washed and

the workman did the work on the end of the house where my bees were, early in the morning, thinking he would be annoyed by the bees, if he waited until they had commenced working very rapidly, later in the day. He did not finish until late in the morning, and most of the bees were out at work. I noticed that they did not go in at the holes when they came back from work, but flew around in circles in front and seemed very much distressed. I found that the longer I waited the worse they behaved, until there were at least two swarms (in numbers) on the wing. I threw water on them and waited sometime, but it did no good, then I went to my office, and cut five blocks of thin wood, about 4 inches square, and painted them all different colors; put a ladder up to the end of the store and nailed a block about 3 inches above each hole and in less than ten minutes my bees had settled down to their regular stream of workers, going and coming with their loads of honey and pollen.

Now if any of the readers of the BEE JOURNAL are not convinced that a bee can see, and can mark the hive in which it belongs, let them try experiments and see how quickly they become confused and bewildered.

Tuscaloosa, Ala.

For the American Bee Journal.

Experience with a Large Hive

JOHN ROOKER.

I will give my father's plan of getting honey. He got the idea of a large hive from one that his father had a colony do well in for over 20 years. The hive was made of sections 7 or 8 inches high and 2½ feet square. From 5 to 7 of these sections were tiered up on each other; forming the hive, with a bottom made by nailing 2 boards together at a right angle, the angle being placed up making an entrance on both sides with inclined bottom board. Slides were used to contract them. The object was to cast out the worms and litter. Sticks were used in each section. This colony never swarmed and always came through the winter very strong, and gave from 100 to 200 lbs. surplus yearly, except 1 or 2 seasons, when it was not so rich. During this time my grandfather had 15 or 20 colonies in box hives but they all died. The rule for "robbing" this large colony was to take off the top sections down to the brood; cut out the honey, and put them back about June 1st.

From this, and our own experience,

father and I tiered up some Langstroth hives to three-stories, getting the two lower stories full of nice worker combs (21 combs) never taking anything out of the stories, leaving room for the queen and plenty of room to hold 30 or 40 lbs. of honey as a reserve through all the honey drouths, always keeping the colony strong. We often find 15 or 16 frames of brood in these "four bushel hives."

If the third story is put on before the colony gets the swarming fever, and 2 or 3 frames of comb be raised from the second story just about the commencement of the harvest, it will be filled with a rush, and what is remarkably pleasant, all the new comb will be worker, or nearly so. They have no swarming fever, and never get it, having no use for drones, they build only worker comb. My father has a three-story colony that has been running 7 years; it has wintered out of doors, and always comes through strong, never showing any signs of dysentery. We examined it a few days ago; it is very strong. He cut out comb honey once last summer, putting back empty frames with two empty combs for starters; this they refilled in 5 days. We extracted at one time 130 lbs. from one of these big colonies; we are inclined to believe that 200 or 300 lbs. to the colony can be obtained annually by this system of management, with the least amount of trouble.

To prepare them for winter contract the entrance to one inch, and give just a little upward ventilation. Just as sure as the top ventilation is neglected they will suffer with dysentery, and perhaps die. The whole secret of success depends on getting the colony to breed up strong enough by the honey harvest to fill the whole three-stories. Once full there is no more trouble; no more fussing with division boards or breeding up in spring, or fussing with swarms.

Crates, prize boxes, frames, half-stories or sections can be used in the third story, and instead of the bees being reluctant about starting in the third story, they take to it like "young ducks to water." Having no swarming fever and never getting it, they readily go up and keep at work. No stopping to prepare for swarming, your bees idle in the very best honey harvest. The queen always having plenty of room below, never enters the honey receptacles or third story, and there is seldom any pollen in the surplus.

We have not tested this system as extensively as we intend to, but have been experimenting with it for the past



7 years. Father has 15 colonies, but only last year he decided to adopt this system altogether.

Mr. Thos. Wildman spoke of a large hive giving 400 lbs. Mr. Quinby favored a large hive, and Mr. Langstroth used large hives. Our bees wintered in the cellar have come through in splendid condition.

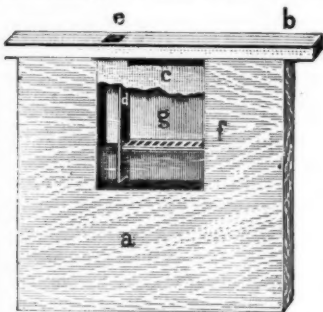
Strawtown, Ind., April 3, 1879.

For the American Bee Journal.

Division-Board Feeder.

PROF. A. J. COOK.

The requisites of a good feeder are: Cheapness, a form to admit quick feeding, to permit no loss of heat, and so arranged that we can feed without in any way disturbing the bees. The feeder (see engraving) which I have used with the best satisfaction, is a modified division-board, the top-bar of which (*b*) is two inches wide. In the cut the lower part of the face of the can is removed to show float, etc. From the upper central portion, beneath the top-bar, a rectangular piece the size of an



oyster-can is replaced with an oyster-can (*g*), after the top of the latter has been removed. A vertical piece of wood (*d*) is fitted into the can so as to separate a space about one inch square, on one side from the balance of the chamber. This piece does not reach quite to the bottom of the can, there being a one-eighth inch space beneath. In the top-bar there is an opening (*e*) just above the smaller space below. In the larger space is a wooden float (*f*) full of holes. On one side, opposite the larger chamber of the can, a half-inch piece of the top (*c*) is cut off, so that the bees can pass between the can and top-bar on to the float, where they can sip the feed. The feed is turned into the hole in the top-bar (*e*), and without touching a bee, passes down under the vertical strip (*d*) and raises the float (*f*). The can may

be tacked to the board at the ends near the top. Two or three tacks through the can into the vertical piece (*d*) will hold the latter firmly in place; or the top-bar may press on the vertical piece so that it cannot move. Crowding a narrow piece of woolen cloth between the can and board, and nailing a similar strip around the beveled edge of the division-board makes all snug. One of our students suggests the name "Perfection," for this feeder. The feeder is placed at the end of the brood-chamber and the top-bar covered by the quilt. To feed, we have only to fold the quilt over, when with a tea-pot we pour the feed into the hole in the top-bar. If a honey board is used, there must be a hole in this just above the hole in the division-board feeder. In either case, no bees can escape, the heat is confined, and our division-board feeder is but little more expensive than a division-board alone.

The best time to feed is just at night-fall. In this case the feed will be carried away before the next day, and the danger to weak colonies from robbing is not so great.

In feeding during the cold days of April, all should be close above the bees to economize the heat. In all feeding, care is requisite that we may not spill the feed about the apiary, as this may, and very generally will, induce robbing.

Lansing, Mich., April, 1879.

For the American Bee Journal.

Apiculture in Florida, &c.

R. H. M'INTYRE.

It is with much pleasure as well as profit that I read the JOURNAL every month, and have ever since its first publication. I made the acquaintance of its late much lamented editor, Mr. Samuel Wagner, in 1864, when I had charge of a large apiary belonging to the government hospital for insane at Washington. Bee culture lost with him one of its most able and talented advocates, and society a pure-minded, genial gentleman. I am glad to say that I think the JOURNAL has ably kept its place as the leading bee publication of America, and I doubt if it has a superior in the world.

We know nothing of the troubles of wintering here. There is no month in the year that bees do not gather both honey and pollen. I have reared Italian queens, had them become fertilized and lay, every month since last June. My bees had more honey in their hives on March 1st than they had November 1st. We do not have as great yields of honey

here, in so short a space of time, as at the north, where linden and white clover abound, but have it more regular.

June is the poorest month. We first have white or soft maple, about February 1st—a very heavy, thick, clear honey, of fine flavor. Then gum February 15th, and orange bloom about March 1st; the honey from these I do not think can be surpassed. Our greatest yield is from cabbage palmetto, about the middle of July. It makes a beautiful white honey, of very good flavor. Some seasons the showers of rain are so frequent that the honey is mostly washed out, which was the case here last summer.

There is considerable interest springing up in this vicinity in bee culture. Almost all keep a few, but mostly in log gums. I bought 40 colonies last summer in log gums, which I transferred to my hive, "The Florida," a very simple hive having 8 Langstroth frames, two stories; upper story can be used either for box honey or the extractor. It is simpler than Novice's Simplicity, and answers every purpose as well, I think. I will send you a description if you think it worth while. Bees commence to swarm in February, and if strong generally swarm 3 times, if left to themselves, and frequently cast swarms during the palmetto bloom. I swarm mine artificially, with very good success. I have 50 old colonies. Quite a number of them are light. They were small when I transferred them, but are increasing very fast now. I rear my queens on a peninsula, with no black bees near, and have as yet had no trouble from my queens mating with black drones. I am using foundation to a great extent in my brood-chambers; could not keep house without it.

The moths are very troublesome here, but the Italians soon settle them. We have an ant that is very troublesome, so much so, that we have to set our hives on stands with the legs in water. The worst enemy the bee has here is a kind of dragon-fly, called mosquito-hawk. It is very destructive, always catching the returning worker with her load of nectar, but never one bearing pollen.

I have one trouble that perhaps you or some of the many intelligent readers of the JOURNAL may tell me the reason of—that is, swarming out without any visible cause. I have had swarms come out and leave plenty of honey, with brood in all stages from the egg up, and perfectly free from moth or anything else. Even swarms with the queen clipped so she could not follow, desert and join some other colony, and leave her on the ground with a few faithful

subjects. What is the matter? We have no foul brood or dysentery here.

Daytona, Fla., Feb. 10, 1879.

[The subject of abnormal swarming was treated on page 199 of the May number, and on page 257 of this issue, to which Mr. M. is referred.—Ed.]

Conventions.

Central Kentucky Convention.

The fourth Semi-Annual Convention of the Central Kentucky Bee-keepers' Association, took place in Lexington, on Monday and Tuesday, May 5th and 6th. H. C. Hersperger, President, in the Chair. Minutes of last meeting read and approved, after which John F. Bean, of Montgomery county, read the following:

Bee-Keeping in Kentucky.

In Kentucky there is no branch of industry which is exciting more interest than that of bee-keeping. Hundreds of persons are rushing into the business without experience, expecting to realize fortunes in a few years with but little expense or labor.

From the hovel to the palace, the rich and poor, old and young, farmers, merchants, mechanics, and men of all classes seem to have caught the mania, and like a mighty torrent, with its angry billows sweeping everything before it, the mania for bee-keeping has spread from one end of our land to the other. In this great rush into a new business will it not be well for us to pause a moment and weigh well what we are doing? Estimates show that about 80 per cent. of the men who engage in business, after a few years, fail. Will such be said of the men rushing into the business of bee-keeping without experience? It is a question each one must decide for himself. It is to be feared that in a few years, when the excitement has subsided, and carelessness and neglect shall take the place of vigilance, reverses will come, hopes will be blasted, the bright dreams of fortune will vanish like the morning dew, and the business of keeping bees for profit will be denounced as a humbug.

For every effect there is a cause. Let a man engage in any business, his desire is success. He looks into the future with fond hopes and bright anticipations, struggling and toiling to overcome every obstacle and gain a competency. If after a few years' misfortunes overtake him and failure stares him in the face, he can trace his failure to some cause. That many will meet with failure in this new business, we do not doubt, and the cause will, in all probability, rest with the bee-keeper and not with the bees. Three things are necessary for successful bee-keeping:

1. A taste for the business is very essential. Each one must determine for himself whether or not he possesses this peculiar



trait. It requires steady nerves, a desire for investigation, and a tact for getting up everything in good order.

2. A knowledge of the nature and habits of the bees. How is this knowledge to be obtained? By study and practice. For illustration, we will take the profession of a physician. What is requisite for his success?

Is it not necessary for him to select the works of the best authors for his study, and to read the different periodicals published, where all matters pertaining to his profession are discussed; and then, with an untiring energy, devote his time to study and investigation? The same can be said of bee-keeping. In order to be successful you must procure the best works on this subject, and acquaint yourself with the nature and habits of the bee. You must read the bee periodicals, keep posted in all modern improvements and be up with the times. Without this, failure is inevitable. A sailor might as well attempt to steer his ship across the briny ocean, without sails to catch the breeze, as for a man to attempt to keep bees for profit without keeping up with the times.

One of the best works published (though not up the times in the way of modern improvements) is "Quincy's Mysteries of Bee Keeping." It is a clear, plain, and practical work on bee culture. Both interesting and instructive. It should be in the hands of every bee-keeper. From the information gained from reading this book I realized \$150.00 in one year. Of a more recent date, we have Prof. A. J. Cook's "New Manual of the Apiary," and "King's Text Book," both highly recommended. I cannot too strongly impress upon your minds the importance of reading these works.

Next in order is a movable comb hive. Let it be as simple as possible. Let all complicated moth-trap hives alone. I have neither time nor space to enter into details for its use.

I will now speak of Kentucky and its resources. Only a few years have elapsed since this magnificent country of ours was a vast, unbroken wilderness. These beautiful fields and pastures were a dense cane brake, inhabited only by wild beasts and the Red Man of the forest. The monotony of the scene was broken only by the howling of the wolf or the whoop of the wild Indian, as he chased the deer from its hiding place. The rapid strides of civilization in its onward march have converted it into one of the loveliest countries on the globe. Where once the Indian wigwam stood, and the Red Man sang and danced merrily around his bright camp fires, we have now stately residences, with yards filled with beautiful flowers. Herds of fine cattle and flocks of bleating sheep have taken the place of wild beast, and blue grass and white clover have assumed the place of the dense cane brake. White clover is a spontaneous growth in Kentucky. Cast your eye over these hills and valleys during the clover bloom, and the earth looks almost as white as if it were covered with a mantle of snow. White clover is the great honey source, yielding immense quantities of beautiful white honey.

Passing on to our forest trees, we have the willow, and elm, putting forth their buds at the first appearance of spring. Following in quick succession is the locust, wild cherry and the sugar maple, with its thousand of of silken tassels, all furnishing a supply of honey and pollen. There is the stately old linden, with its graceful clusters scattering its fragrance on every breeze, yielding great quantities of delicious honey, as clear and transparent as water. The old poplar stands in all its glory, spreading its branches further and lifting its head higher than any other tree of the forest; its beautiful tulip-shaped bloom, tinged with red and yellow, opens its petals, invitingly to the bee, and furnishes a rich harvest. The amount of honey secreted in the poplar bloom is almost incredible. In our orchards, we have the apple, pear, peach and cherry. In the garden is the raspberry, strawberry, mustard, rape, turnip, and almost every vegetable grown for our use, furnishing the bee with a wasting drop of sweetness. Mother-wort and mint are also our honey producers.

In the fields is that pest of the farmer, the spanish-needle, in some sections yielding almost as much honey as clover. Catnip and horehound are found in almost every fence corner of the barn-yard lot. The homely dandelion flourishes every where. Almost everything from the most insignificant weed to the largest forest tree solicits the attention of the bee.

It is with you, bee-keepers of Kentucky, to develop the great resources of honey in this country.

Allow me a parting word of advice. Mr. Thomas G. Newman, the editor of the AMERICAN BEE JOURNAL, is present today; before leaving this house let me urge you all to subscribe for his journal; it is the best that is published.

Improved Methods of Bee Culture.

The President introduced Mr. Thos. G. Newman, of Chicago, Ill., editor of the AMERICAN BEE JOURNAL, President of the National Bee-Keepers' Convention and American Representative to the International Conventions of Europe, during this season.

Mr. Newman said he was gratified to meet so many intelligent gentlemen. The intelligence necessary to successful bee-keeping is capable of success in everything.

He then entered into an interesting and amusing description of "old fogey" bee-keepers, the "log gums" of our grandfathers and the box-hives of our fathers. He described the great advantages of the movable-frame hives of the present, and enforced the necessity of a thorough knowledge of not only the habits of the bee but also the adoption of the newest and most desirable methods of manipulation. He advised all to study the latest works on bee-culture, especially Cook's Manual, which was a thorough and masterly production, alike valuable to the scholar, the specialist and the beginner. The more simple the hive the better. All knew that he was partial to the Langstroth hive; nevertheless there were very few movable comb hives that contained no good feature. With almost any of them the apiarist could be successful,

if he adopted a system of scientific and practical management. The most important point being to select one style of frame and then to adopt no other; for to be successful, all the frames in an apiary should be perfectly interchangeable.

He approved of the one and two pound sections for surplus honey, used with separators. These were essential in order to pack in crates for shipping to market, and such always commanded the highest prices in the large cities of the North.

He said we are taught to pray, "Lead us not into temptation," but we justifiably transgress by putting up our honey in the most enticing manner to tempt the people's appetites, and their pockets. It is all right so long as we don't tempt them to do evil. He said extracted honey is far superior to comb honey, and better and cheaper for the people, but we must educate them to its use.

He then spoke of extractors as one of the great improvements of the age, and next in importance to the movable frame hives. The one on exhibition made by Mr. C. F. Muth, of Cincinnati, O., was a very good machine, as hundreds who were now using them would testify.

He then spoke at some length of the excellent qualities of Italian bees and the importance of improving our stock. Lexington possesses a world-wide reputation for its improved stock and bee-keepers should be fully alive to their interests.

The improvement of the race is the great key note to all success. He summed up by saying that Italian bees are at least fifty per cent. better than the common blacks.

He spoke of the fact that all the World was looking and wondering at the progress of American improvements in bee culture, and implements of the apiary generally, and he quoted the following sentence in proof of this assertion from a recent letter from L'Abbe Dubois, of the Societe de Apiculture, de La Somme (Northern France). "We are looking for more light, and find the most important and interesting experiments are made by our colleagues in America."

He then spoke of the importance of buying none but the best tested Queens—that the business of flooding the country with Dollar Queens ought to be stopped.

He said that he and the AMERICAN BEE JOURNAL (of which he is editor), have declared an eternal warfare against adulteration in all its forms; and he added that the use of glucose for feeding bees, cannot be too strongly condemned. He said children ought to be the largest consumers of honey, as it is the God-given food: "My son, eat thou honey, because it is good."

Mr. Newman's extemporaneous address was duly appreciated and heartily endorsed; and on motion of J. W. Rose, seconded by the Secretary, a unanimous and rising vote of thanks was tendered him for the excellent discourse after which the Convention adjourned for dinner.

AFTERNOON SESSION.

General R. M. Gano offered the following resolution, which was unanimously adopted:

Resolved, That the members of this Convention will do all in their power to keep the honey pure and unadulterated, and they will enforce the law against any person known to violate the laws of our State on the subject of adulteration of honey, and that we will each put our names upon our cans or jars of extracted honey, before placing it upon the market.

The Secretary offered the following resolution, which was adopted:

Resolved, By this Association, in convention assembled, that pure extracted honey is the best and cheapest, (because honey alone is paid for). It is healthiest, acts as food, medicine, and a luxury combined. We would therefore recommend its use in every family as preferable to comb honey.

Mr. T. G. Newman, being called upon delivered an interesting address, which was received with considerable applause. Being obliged to leave at 2:30 p.m., to enable him to reach the next meeting in Illinois on time, the Convention took a recess of 10 minutes to enable the members to take their leave of him. Mr. Newman was followed by the good wishes of all present.

General Gano said he would like to hear the subject of honey-souring fully discussed so as to be enlightened for the future.

Although he had never had any to sour, the President said he had once sent some cans of extracted honey to Lexington; it was jolted in the wagon and exposed to the hot sun for several hours, and some of that did sour. He said there are people who are prejudiced against extracted honey, because they love to chew the wax, on the same principle that ladies and children love to chew paraffine gum.

The Secretary said it was a matter of judgment as to when to extract honey to prevent it from souring in very dry weather, when honey is fully matured, there would be no danger of souring if taken or extracted in wet or damp weather. It should be left uncovered, in a dry, cool place, so that all elements of souring would evaporate.

The President said it is essential that newly extracted honey should be exposed to dry air—the drier, the better.

Mr. J. F. Bean said, "In California, in large apiaries, they have large flat vats to pour the honey in just as extracted, and thus all dampness and watery fluid evaporates and prevents the honey from souring in the future."

The Best Manner of Wintering Bees.

J. F. Bean said he had been very successful in wintering bees. He merely places small strips over the brood-chamber, and put three layers of common cotton cloth on top of them; always lets his bees fly in winter whenever the weather is good.

W. B. Herring said he has been successful in wintering, and adopted a similar plan to Mr. Bean's, except that he used chaff cushions, made of old coffee sacks filled with chaff.

J. W. Rose said that wintering in Kentucky is a simple matter to what it is North. He leaves all his bees in the Langstroth hives on their summer stands, with little, if any, other protection and he always wintered with success.

C. H. Dean spoke in favor of wintering bees in his Chaff Simplicity Hive, and in support of his views, read an article from *Gleanings in Bee Culture*.

J. F. Bean said that such hives are neces-



sary in cold Northern climates, but not in Kentucky, as he had wintered bees successfully as an experiment in hives made of half inch plank.

C. H. Dean said we all use and endorse the Langstroth hive, at least the frames, and that is the principle, no matter what the outside may be.

On motion, the President appointed the following committee to select subjects for discussion for the second day's session: W. Williamson, R. M. Gano, J. F. Bean.

Honey Show.

On motion a committee was appointed to take into consideration, and act upon the communication of Dr. R. J. Spurr, Vice President of the Agricultural and Mechanical Association, of Fayette county, and by special motion the President was to act as chairman of the following committee: H. C. Hersperger, W. Williamson, F. P. Searce. The communication read as follows:

Lexington, Ky., May 2, 1879.

MR. W. WILLIAMSON, Sec. Dear Sir.—Yours of April 30th is before me, and I answer that the present Board of Directors for our fair have not felt that it was their privilege to do any act in the way of giving premiums that would be in any way, binding upon their successors. A new Board will be elected on Saturday, the 10th inst., and I do not hesitate to say that they will meet the wishes of the Bee-keepers' Association in a liberal spirit. I wish your meeting would indicate what they want, and lay it before the new Board. Very respectfully, R. J. SPURR.

On motion, convention adjourned to meet on the following morning at 10 o'clock.

SECOND DAY.

Convention called to order. President Hersperger in the Chair.

Reports of committees being called for, the following were received and read:

We, your committee appointed to indicate the wishes of this Association in regard to bee-keeping interests, as suggested by Dr. R. J. Spurr, as Vice President of the Agricultural and Mechanical Association, of Fayette Co., desire to have it fully recognized at their next fair, by offering such premiums as they may be pleased to offer, recommend the following: Best display of honey. Best honey. Best display of bee-keepers' supplies.

H. C. HERSPERGER,
W. WILLIAMSON,
F. P. SEARCE, } Committee.

On motion, it was unanimously decided for this Association to add to the premium for "best display of honey"—a silver medal.

Committee appointed to select suitable questions for discussion, reported the following:

1. How to prevent swarming?
2. Which kind of bees are preferable in Kentucky?
3. Best honey-producing plants?
4. What number of colonies will prove profitable in one locality of Central Kentucky?
5. Are any other safeguards necessary against moth, than simply strengthening the colonies with the best strains of bees?

W. WILLIAMSON,
R. M. GANO,
J. F. BEAN, } Committee.

How to Prevent Swarming.

Mr. White, of Indiana, said bees ought to have plenty of room and ventilation; as colonies increase in strength give them room.

The President said that to beginners this question is not of much importance, as they nearly all want swarms, while it is the reverse with advanced bee-keepers. We rarely have an abundant supply of honey and swarms during the same season in Kentucky. A good plan when the bees get the swarming fever is to get a new hive, take all the brood frames, bees and all, put them in it and remove it a few yards from the old location; the bees will imagine they have accomplished their swarming, and go right to work.

General Gano said his experience covered a number of years, but of late he has paid more attention to bee culture than ever before, and knew of no better way to prevent swarming than by removing queen-cells. He does not approve of too much room and has invariably failed with "palace hives."

J. B. Williamson said: You are all aware that we use the Langstroth hive exclusively; and to prevent swarming we put a few frames of empty comb in the center of the brood-chamber, remove the queen-cells; keep the bees in a cool, shady place, and we have no trouble.

The President said, if you will follow the plan just given you I am sure it will prevent swarming, and consequently the first steps he would take to prevent swarming, would be to give them good shade. Keep them cool, or if they get heated up, (for this is what I call the swarming fever), if they get the swarming fever, they are very hard to control, unless put into a new hive, as I have already suggested. Cutting out queen-cells will only prevent swarming while you continue to cut them out.

What Bees are Preferable in Kentucky.

After a general discussion of fine points it was unanimously admitted that a good strain of pure Italians are the best.

The Best Honey-Producing Plants.

The Secretary said that Alsike clover was one of the most profitable and best honey-producing plants, although not much known in Kentucky. If the experience and testimony of prominent and progressive farmers and apiarists in other States are worth anything, it is a pronounced success; but all flowers and plants produce honey to a certain extent—mignonette, turnip bloom, and thousands of blossoms, trees and shrubs of all kinds. Our great object should be to induce farmers to sow such seeds as will prove profitable as a farm product, and at the same time produce the sweets of a good honey crop.

The President said, it is a very fortunate provision of nature that in early spring the plants that bloom being bitter and unfit for producing honey for family use, the bees use it all up in feeding their young, before the flow of surplus honey is stored.

How Many Colonies will prove Profitable in One Locality in Kentucky?

J. W. Rose said Kentucky is as capable of supporting profitably as many colonies to the square acre as any State in the Union.

The President said that he could not fully agree with Mr. Rose, as our country here is principally composed of Blue Grass. In the

county of Jessamine are about 600 farms. A good rule would be for every farmer to keep just enough bees to supply his own family with honey.

J. W. Rose said in his neighborhood, within an area of six miles, there are over 500 colonies, and all have proven more profitable than any he has heard of.

Are any other Safeguards necessary Against Moth than simply Strengthening Colonies with the Best Strain of Bees?

Gen. Gano said: My object is to learn, and we can all learn better by meeting and telling our experience. It is my opinion that other safeguards are necessary. I feel that a majority of you are against me, but I came here to be righted if wrong. The Excelsior hive I claim is a moth-proof hive. I have used Langstroth hives, but since using the Excelsior I have had no trouble whatever, and would like to know how much of my success is due to the hive I use. It may be we are more troubled with moth in Texas, where I reside, than in Kentucky. I am free to admit that Italian bees protect themselves better than blacks. He then criticised Mr. C. H. Dean's essay as condemning everything in the shape of moth-proof hives.

J. R. Williamson said that Mr. Dean, in his essay, condemned moth traps and patent hives in general, but Mr. Dean is only echoing the warning voice of all American bee journals and magazines.

Mr. Dean said that when he prepared his essay he was not aware there would be any moth-traps at the Convention, or he might not have written as he had, as it is a great deal easier to talk behind a man's back than to his face. The Langstroth hive, filled with the best strains of bees, as the question embraces, is undoubtedly the best moth-proof hive known.

Pres. Hersperger then delivered the following address:

Success in Bee-Keeping.

Another year has rolled around. Another springtime has come, and we are again assembled to talk and learn of one of the industries of our land, and one of the sources of wealth to our nation. The winter has been a severe one, and many of our little pets have left us, but the soft winds from the sunny land of the South have opened the buds and carpeted the fields in clover of purple and gold, and the hum of the bee as it improves the shining hours, is again heard around us. They are already increasing their numbers by thousands and tens of thousands, and the depleted hives, from the cold winter, will again, under judicious management, soon be replenished and ready for work. Nature has so ordained that with the increase of the flora comes the increase of bees. The harvest and the harvesters come simultaneously. But this does not argue, by any means, that he who has flowers and bees will of necessity reap a harvest of honey. The race is not always to the swift, nor the battle to the strong.

Prudent and skillful management, coupled with energy and industry, almost always brings success in all departments of life. But in nothing is it more absolutely neces-

sary than in the successful management of bees. So much depends upon the man; upon his industry, his energy, his habit of thinking and investigating, his perseverance and unbending determination to succeed, that I am forced to say that success in bee-keeping depends upon the man; of course the elements or conditions of success must be present. The flora must be in the fields, and the honey must be in the tiny cells of the flora, but to gather it in and secure and save the greatest possible amount is where the prudent and skillful management comes in. He who turns over every stone and leaves nothing undone that can be done; who knows the wants and condition of every hive; who reads and thinks, compares and examines all the bearings upon the subject, will succeed without fail, unless the honey be absent from the fields. And this same tenacity to business brings success in all departments of life, I care not whether it be with the professions or with the humble, but none the less noble calling of farming. Look around you and see who are the successful men, and you will see at once energy and industry and good management combined. A determination to succeed, with the proper elements at hand, will surely bring success. One of the sources of failure in bee-keeping is the eagerness to increase in stock beyond the ability to manage them. Every beginner in bee-keeping should aim to make honey, and let increase in bees alone. They will increase of themselves as fast as he can learn to take care of them. "Make haste slowly," is the advice of one of our best bee-keepers. Another source of trouble is that our country is being flooded with poor queens and worthless bees. The cry has gone out over the land for dollar queens—"the daughters of imported mothers." Nothing else is required, except that they be the fertile daughters of imported mothers. This gives any one the right to sell queens who has an imported mother. No difference how many black bees are around you and in your own apiary; how poor your chances are to have a solitary queen purely fertilized, you have the right to send them out broadcast over the land to your customers, far and near, under the high sounding title, "daughters of imported mothers." Is this right? Has a man the right to sell queens when he knows the chances for purity of fertilization are not at all favorable? I have blacks all around me, with plenty of hybrids in my apiary, and yet I have the right, under this ruling, to get a \$5 imported queen and raise and sell a hundred queens this season, and thereby put a hundred dollars into my pocket. But would this be right? I claim it would not, and that no one should offer queens for sale unless the chances for purity of fertilization are favorable. In order to do this his own apiary should be all Italian, and his nearest neighbors as well. And then, again, not every queen that comes from Italy is a pure Italian. This for a long time was not so understood, but believed that every queen that crossed the ocean was pure, but it is now conceded by the best apiarists of our country that the German bees have been introduced into Italy and are mixed in with the Italian of that country. Mr. C. J. Quinby,



at the New York Convention, said that "nowhere in Italy did he find Italians unmixed, nor were any of the bees he saw in Italy as universal in markings as in this country." Mr. J. H. Nellis, of Canajoharie, New York, says: "I confess I am thoroughly disgusted with the majority of imported queens and their progeny."

Then, gentlemen, what are we to do? Simply this: Breed and rear queens for the special characteristics we want. What do we want? We want the very best honey producers. We want bees that make the best results. Then, let every house-keeper in Kentucky turn his attention to the development of a race or strain of bees, and we can astonish the world in this department, as we have astonished them in the noble strains of our horses and our cattle. Our genial climate, our central position between the North and the South, our productive soil with its invigorating and distinctive elements entering into its productions, gives to us a home and a nursery for the development and perfecting of animal life in all its forms unequalled in the wide range of human knowledge.

Gen. Gano said there is a good demand for pure Italian queens in Texas, and as soon as some good party would make a business of raising the best strains of queens he would assure them of a good market in Texas.

The President said Central Kentucky is best adapted for queen raising that he knew of; its central position making it a very desirable location.

Mr. C. H. Dean, Sr., offered the following resolution, which was adopted:

Resolved, That it is the sense of this Convention that our President, Mr. C. Hersperger, be requested to prepare and have published in the Lexington papers, *Jessamine Journal*, *Woodford Sun*, and all local papers of the State, an article on extracted honey, explaining the process so that it can be understood by the public generally.

The following motion was unanimously adopted:

Resolved, That all newspapers, magazines and journals friendly to this association, and the bee-keeping interests of the State, are hereby requested to publish the proceedings of this Convention.

Being no further business before the Convention, on motion adjourned to meet in Lexington on the first Tuesday in October next, at 10 a. m.

Mr. C. H. Dean, Sr., did not leave his essay with the Secretary, having forgotten to do so (and being at his home in Woodford county), is the reason his essay is not published with these proceedings.

There was on exhibition a large display of all the latest improved bee-keepers' supplies—the Standard Langstroth Hives, the Simplicity Langstroth, Cottage Hive, Vanhorn Excelsior, and White's Palace Hive, Muth's Extractor, the best journals and books on bee culture. Altogether, this has been the most interesting and successful convention the association has ever held.

W. WILLIAMSON, Sec'y.

The bee-keepers of Mahoning, O., and adjoining counties, met on the last Saturday of February, and organized an association, called "The Mahoning Valley Bee-keepers' Society." A Constitution and

By-laws were adopted. The following officers were elected: Leonidas Carson, President; C. B. Beardsley, Vice President; B. T. Stanley, Secretary and George Carson, Treasurer.

All persons interested in bee culture are invited to join this Association.

LEONIDAS CARSON, Pres.

Livingston Co., Mich., Convention.

This meeting was held in Howell, Mich., April 19, 1879. The morning session was an informal one. Prof. A. J. Cook and Mr. Frank Benton brought in a number of apiarian implements and placed them upon exhibition.

One of the members asked for the best time to transfer bees. Prof. Cook said it could best be done during the time of apple-bloom, as there was then less honey and less annoyance from robbers.

Mr. Benton said in answer to some question in regard to comb-foundation, that it should not go nearer than one or two inches to the bottom of the frames, and might be fastened by stiffening it every one or two inches and ultimately pressing it to each side of the comb-guide, then pressing it on the comb-guide so it would stick.

At the afternoon session about 60 persons were present, and the first six of the eight questions which had been selected for discussion were gone through with.

The discussion of the first question on the distance of frames from each other and from the sides of the hives was opened by Mr. H. Blackburn, of LeRoy. He liked to have his frames exactly square. Mr. Benton preferred them slightly narrower at the bottom than at the top, so that the distance between the side pieces of the frames and sides of the hives would be one-fourth of an inch at the top and three-eighths of an inch at the bottom, and claimed they would lift out easier; he also advocated staples in the ends of the bottom-bar to save crushing bees in lifting the frames out.

Prof. Cook said the most important thing was to have all frames exactly alike and true; in visiting Mr. Wolcott's apiary he found just such frames and found that his rule was correct.

All members favored about $\frac{1}{4}$ inch as the proper distance to give bees free passage and still prevent them from building combs between the frames and the sides of the hive.

The discussion of the second question, on the best mode of marketing honey, was opened by Mr. Wolcott, who put up his honey mostly in the boxes recommended by Mr. Langstroth; he had seen in his travels through France, England and Scotland, nothing very new or admirable in the line of honey-packages.

Prof. Cook recommended section-boxes put first into the brood-chamber until a rush of honey comes, then into top stories above the brood nest; thinks extracted honey will pay best put up in jelly-cups, as they could afterwards be used, while empty bottles, such as Mr. Muth, of Cincinnati recommends, would be of no use after being emptied of honey. The Prof. showed some

very fine samples of clover, basswood and buckwheat honey, all granulated, also some Southern honey from New Orleans, not granulated but of inferior flavor.

Mr. Benton recommends flint glass cups having bails and holding 1 or 1½ lbs., which could be procured in any of our cities by wholesale at quite reasonable rates, also a large can should be filled with honey and the producer's name painted on it and supplied with a molasses gate, then put into some grocery store.

Mr. Blackburn thought little pots or cups too expensive.

Will bees gather honey from red clover? —was answered in the negative, as regards black bees, no one having ever seen them working on it. Italians were said to work on it some—especially on the second crop.

Mr. Benton had visited a bee-keeper who showed him quite an amount of honey gathered from red clover.

Prof. Cook protested against the use of comb-foundation in surplus boxes, while Mr. Blackburn used them and never had any fault found, and thinks section boxes will stand shipping better by having comb-foundations used in them.

The next question brought out a condemnation of the use of grape sugar as being injurious to bees and men.

The next question was: Should queens' wings be clipped? Prof. Cook advocated it very decidedly, as it would save a great deal of anxiety and time in swarming them, by being sure that the bees would always come back from high trees or other inaccessible places, or where several swarms happened to cluster together in one place.

Mr. Benton and others also recommended it, and had never lost any queens or swarms by following the plan.

Prof. Cook stated that the most important thing now was to have good queens and feed to stimulate; he advocated feeding any time when the bees were not gathering honey.

Mr. Charles, of the Agricultural College, was then introduced by Prof. Cook and he explained and showed a new and very valuable feeder invented by the Professor and manufactured by himself. This feeder is used as a division board, and is calculated to be used in spring.

Prof. Cook thinks dysentery is often caused from feeding them sugar syrup or honey late in the fall.

Mr. H. Ross asked whether there was danger from feeding unbolted flour.

Prof. Cook thought not, as bees would not take more than they wanted.

Mr. Wolcott said cholera was caused by annoying the bees when they do not fly, so that they gorge themselves when disturbed.

Mr. Ross asked whether combs might be turned in transferring; Prof. Cook thought it made no difference.

For wintering Prof. Cook recommended a well ventilated dark cellar.

Mr. Lathland described his success in wintering in his cellar, and prefers hives with loose bottoms.

Mr. A. E. Cole thinks that he lost a number of colonies from their eating uncapped honey.

Mr. Benton then being called on explained

the use of the extractor, and gave an interesting history of its invention.

The time of holding the next meeting was left to the Executive Committee.

THEO. WELCKER, Sec.

[This feeder is described on page 266 of this JOURNAL.—Ed.]

Read before the Addison Co., Vt., Convention.

The Adulteration of Honey.

E. A. HASSELTINE.

The adulteration of sweets is a subject that is coming before the common people. The universal demand and the consequent supply of sweets in some form, make it a subject, I may almost say of paramount importance, and while it may be an easy matter to state this fact, and to talk around it and about it, yet to get underneath it, to analyze the motives which underlie it in its various forms; to show its relations both to the producer on the one hand, and the consumer on the other, is a theme far too wide and deep for me to grapple with to-day, so we must be content to present a few observations which may at least serve as subjects for us as bee-keepers to reflect upon, as we go about our various duties. Let us, as a company of honest men, look this evil squarely in the face and if possible make some effort, though feeble, to throttle this monster which bids fair to gnaw at, if not to destroy the interest of every honey producer.

A few words about sugar and we pass to consider that part of the subject which more directly interests us. Go into any of our grocery stores and examine any of the cheaper grades of sugar, smell of them and you will easily detect a strong offensive odor, something like that which is termed a barnyard smell. This same scent is retained after using. It can be easily detected in canned fruits, pies of any kind, and when this sugar is used as a sweetening for tea without milk in it changes it to a dark color, like that of strong lye. This has not more than fifty percent of sweetening properties. The foreign qualities of such sugars are said to be glucose or grape sugar, with some of the strong acids, sulphuric or muriatic, with some salts of tin. Its effects upon the human system are a question of dispute among M. D's, and when doctors disagree who shall decide? It would seem that good sense would at least prefer good sugar.

The adulteration of honey is doubtless one of the most important questions connected with our business as honey producers. The very term implies dishonesty; it savors strongly of rascality. Honey may be adulterated by the producer by the use of sugar, glucose or the use of foundation in boxes. This last does not necessitate an impurity in honey, strictly speaking, but it is our opinion it may give sufficient ground for condemning box honey as spurious. In this case, the dishonesty or rascality must be in the mind of the producer. Bees are honest, and when left to themselves give us their products in their natural purity, but can be to a certain extent made a "cat's paw" for



the avarice and insatiable greed of their owners. We, as honey producers, can remedy this evil. Let us put nothing into the market but the pure article. There may be money at the bottom of the dish, but we are apt to let our wallets out-weigh our common sense; to be more anxious for large bank deposits than large hearts. "Honesty is the best policy," and as we once heard it remarked by a man of experience upon the subject of marketing produce, "Produce a good article and you will have no difficulty selling it." "Multum in parvo," is a good motto for every farmer.

Strained or extracted honey is more easily adulterated, because it is subject to the manipulations of more unscrupulous hands before reaching the table of the consumer or the laboratory of the druggists. It is an effort made by the more unprincipled men to offer as honey that which is not honey. The very ignorance of what good honey is, gives an opportunity for the introduction of a spurious article and being in the hands of shrewd men, they will spare no effort in pushing it forward, because there is great profit involved in it. As it now is, the people will become educated in bad honey much faster than in the delicious products of the bee. This will be fatal, not only because it will supplant the legitimate demand for the real article, but because of its impurity, they will be led to look with aversion upon the very name of honey. In consideration of this matter there are suggested four things necessary to be done. First.—Every honey producer must send out nothing but the genuine article. Second.—Sell to the consumer as directly as possible. Third.—Enlighten the minds of the people as to what good and pure honey is. Fourth.—To do what is in our power for the enactment of laws punishing the adulterator, and confiscating the adulterated. The first of these is apparent from what was said above. The second, the selling directly to the consumer, enables him to buy at lower rates avoiding the profits of middle men. Furthermore, it assists in establishing an individual reputation for producing a good article. The third, enlightenment is the forearm of reform and unless the consumer knows what good honey is he is more easily satisfied with the spurious. Men drink modern whiskey, because it is in the market; although it leaves them with aching heads and unsteady nerves. The fourth, the protection and good of the people is the design of legislation and very properly it puts its strong arm on the adulteration of food. Honey is fast becoming an article of consumption among our people, hence it seems proper that some action should be taken, by which it may be given to them free from impurities.

Glucose and Oleomargarine butter are twin sisters, and while law directs that every package of this stuff called butter should be stamped in such a manner that every one may know what they buy, so should it be with honey. Is not this truly a cause of alarm? Honey is a poor article, unless it can be sold at such a price as to give fair remuneration for investments and trouble. Most farm products have many ways in which they can be disposed of, but honey

must be sold. It seems to us that the prospects for honey producers are a little cloudy, but let us acquit ourselves honorable in striving to give our productions in their native purity.

Middlebury, Vt.

Central Michigan Convention.

About 100 persons, 25 of them ladies, assembled in Pioneer Hall in the new Capitol building to take part in the proceedings of this Association.

An Everett honey-extractor, wax-extractors, hives, smokers, comb-foundation, copies of all the bee-papers, and many other articles of interests, quite a number of which were kindly sent by Mr. J. H. Nellis, of Canajoharie, N. Y., were on exhibition.

Prof. A. J. Cook, of the State Agricultural College, read an interesting paper on "Bee Smokers," detailing their history from their mention first by Columella, then in German, French, and English bee-publications, down to their improvement by the late M. Quinby, and later still by our own T. F. Bingham, recommending the Bingham form as strongest, handiest and most efficient.

A general discussion of manipulation of bees followed.

In the afternoon the Secretary read a paper on "Queens and Stimulative Feeding" stating that these two things as vital points, should receive the careful attention of every bee-cultivator, and claiming that when this was done it would not matter so much about the size of frames, style of hive, method of swarming, wintering, etc. He advised great care in the selection of prolific queens whose bees were hardy and industrious, to breed from; pains in queen-rearing; and would feed whenever, between April 15th and October 1st, bees were not gathering honey. "Queens," he said, "are the foundation of an apiary, while the cornerstone is stimulative feeding."

Hon. A. B. Cheney, President of the State Bee-keepers' Association, then addressed the meeting, concurring in the points above stated, speaking in high terms of the new bee-feeder invented by Prof. Cook, and, in answer to questions on various topics by members, gave much information valuable to those present.

Mr. S. D. Newbro, of North Lansing, brought forward his "bag-hive" designed for winter use only, and in a paper of much interest presented its claims. "A Factor in Wintering," was Mr. Newbro's subject, and he showed that the removal of the moisture from the hives by means of absorbents is in wintering a very important factor. His hive is a frame-work surrounded with cloth, the whole to be packed in chaff if left out of doors. He thought it a great mistake to put a painted inch board between the combs and the absorbents.

While Mr. L. B. Baker and Prof. Cook did not seem to favor Mr. Newbro's plan, the Secretary expressed himself greatly in its favor, and called attention to the fact that he brought forward substantially the same plan at the last meeting.

The question box elicited many replies valuable to the questioners.

Mrs. L. B. Baker, Mrs. E. C. Leach, and Messrs. Ashworth, Baker, Blackburn, Caruss, Cole, Greenaway, Waldo, Welcker, Wood, and many others helped in making the meeting lively, and, altogether, a good time was had.

Thirty-five members reported 586 colonies put up for winter; 37 had died during the winter, and 55 during the spring; 175 were in chaff hives; 96 packed; 52 buried; 393 in cellars; and 11 unprotected. From various reports it appeared about four-fifths of the bees that had been uncared-for had died during the past winter and spring, while from the table it can be seen that only about one-sixth of those which received care, were lost.

Vice-presidents for the counties represented were elected, and delegates to the meeting of the State Association, and to the Livingston county, Association, then it was resolved that all members attending the National Convention, should be regarded as delegates. The Association then adjourned to convene in Lansing, Oct., 15, 1879.

FRANK BENTON, Sec.

Southern Kentucky Convention.

This Association met at Gainsville, Allen Co., May 2, 1879, Pres. Cook in the chair. After reading the minutes of the last meeting, and the enrollment of new members, J. Erwin was elected assistant Secretary.

The President announced the following question for discussion:

"Can Bee-Keeping, as a Profession, be Made a Success?"

Mr. Newman was called upon, and responded in a few appropriate and interesting remarks. He said that with the aid of the new inventions and discoveries, we could have entire control of our bees; that in order to make bee-keeping a success we must educate ourselves in the science of bee-culture, and avail ourselves of the movable frame, the honey extractor, comb foundation, bee smokers, and the Italian bee. Said comb foundation ought not to be used in honey-boxes. If used at all in boxes, must not be wider than half-inch. Said it was a good thing in the brood department of the hive, and he was in favor of filling the frames with it, leaving one inch space at the bottom and $\frac{1}{2}$ inch at each end of the frame.

Dr. Allen favored the use of comb foundation in honey boxes, in narrow strips, one inch wide, as a V shaped strip; thought it a great help in getting bees to begin work in boxes. He also stated that he had not found it a success in brood-nests, but was of the opinion that the foundation with wire or linen might be made a success.

The Committee on Arrangements reported dinner on the ground, and, on motion, the Convention adjourned.

At 1 p. m. the Convention assembled and was addressed by Mr. Newman, editor of the AMERICAN BEE JOURNAL, on "Honey, its uses and abuses."

Recess for 20 minutes, after which the second question on the programme was again taken up and discussed in a very able

and interesting manner by J. Erwin, J. D. Davis and W. Cook.

The President appointed the following committees:

On Apiarian Supplies—J. Erwin, J. D. Davis, E. Moore and W. T. Sears.

On the State of Bee Culture—J. Erwin, J. D. Davis and J. L. Garvin.

Committee to decide Premiums—J. Stark, D. Stoval and E. Neale.

"Bee-Feeding and Bee-Forage."

Mr. Gavin said he fed rye meal and sugar syrup in early spring.

Poplar and white clover was the best spring forage, and buck-wheat for fall forage.

Mr. Greer said sugar syrup was not as good feed for bees as honey.

Dr. Allen said bees ought to be fed when they need it. Said in his location the white clover alone gave them their surplus honey, but on water courses and in the mountains, that the poplar and linn afforded an abundant honey harvest.

Mr. Sears said he never had occasion to feed but one colony of bees, and it died. Said he never extracted from brood nests; always left his bees plenty of honey to winter on.

Mr. Davis lived in a land of honey and had but little occasion to feed bees; kept over some honey in comb to give bees; he thought the plumb, apple, poplar, linn, red-bud, white clover, astor, golden-bud and farewell-summer gave us the richest honey harvest.

Annual Convention.

Edmunton, Metcalf Co., was selected as the place, and 23d and 24th of October next as the time.

On motion, the Secretary was authorized to pay the printing, postage and stationery accounts. Carried.

On motion, the Convention adjourned to meet at 9 o'clock May 3d.

SECOND DAY.

On motion, T. G. Newman was elected an honorary member of this Association.

On motion, the thanks of this Convention was tendered to Mr. Newman for his very able and interesting addresses before this Association, and for his kindness in furnishing us with samples of apiarian supplies, books, etc.

The reports of committees was then called for. The Committee on Apiarian Supplies reported as follows:

We, your committee on Apiarian Supplies, beg leave to report that there is on exhibition at this meeting of the Association, the following articles: From T. G. Newman & Son, Chicago, Ill., Bingham Smokers, queen cages, Boss Bee-Feeders, bee veils, honey knives, books and pamphlets on bee culture, all of which we recommend as valuable aids to the bee-keeper. From H. A. Courtney, Glasgow, Ky., the Golden Bee Hive, which we can recommend as having many valuable features, being far superior to the common box hive.

The committee on State of Bee Culture reported as follows:

We, your committee on the State of Bee Culture in Southern Kentucky, beg leave to report that so far as our information extends, the condition of bee culture within the bounds of this Association is not as prosperous, as regards the number of colonies, as it was a year ago. Great loss of bees sustained in most of the counties of Southern Kentucky, through the ravages of a disease known as dysentery. The



loss being much greater in some localities than others; the least loss being in Cumberland county and counties bordering on the Cumberland river; yet we believe that, through the efforts of this Association, scientific bee culture is gradually gaining ground, old methods and old prejudices are vanishing away under the light that modern science has shed upon this subject. Honey production is steadily increasing, and the future for bee keeping was never more promising than at the present time.

The report was received and the committee discharged.

The Committee on Premiums reported as follows:

We, your Committee to decide premiums, as offered by Dr. Allen and T. G. Newman, would beg leave to report the following: E. Moore, nine, first premium; N. P. Allen, eight, second premium; H. W. Sanders, seven, third premium; J. L. Garvin, four, fourth premium. All of which we respectfully submit.

The report was received and the committee discharged.

What is the best Hive?

Mr. Owens and Joe. Allen explained the Golden hive. Mr. Sanders said he preferred the Langstroth hive to all others; thought it the best hive in use; said there was no patent on it, and advised all to use it.

Mr. Sears agreed with Mr. Sanders that the Langstroth hive was the best. Mr. Erwin said the Golden bee-hive had some good features about it; that it was a movable frame hive, and for farmers on a small scale would answer much better than the old box hive; said that all the various hives had their advocates; some like one and some another; as for himself he preferred the Langstroth hive, as it was almost universally used by specialists in bee culture; said he thought the Chaff hive the coming hive; that he had made one and wintered his weakest colony of bees in it, and they came out in the spring the strongest colony; it was a Langstroth hive with a chaff apartment around it. For winter protection he advised all to have but one style of hive and one-sized frame.

A general discussion on last year's work was engaged in by Garvin, Mitchell, Greer, Boyd, Saunders, Erwin, Cook and others.

After the discussion was closed the President delivered one of his soul-stirring addresses. He carried us back to our childhood days, and pictured in glowing terms the condition of bee-culture in that age of ignorance and superstition; showed us how the intelligence of man had brought order out of confusion, light out of darkness, and blessed us with delicious, heaven-born, unadulterated honey; told us that with the modern inventions, bee-culture had been made a pleasant pursuit, a blessing to all who availed themselves of its pleasures; urged all to keep a few colonies of bees, to furnish their tables with one of the greatest blessings of God to man—pure honey.

The Secretary offered the following resolution, which, on motion, was adopted:

Resolved, That the thanks of this Association be tendered the citizens of Gainesville and vicinity for the use of their church-house to hold our meetings in, and for their generous hospitality in entertaining us at their homes and furnishing us with sumptuous dinners on the ground during the meetings of this Association.

On motion, the President appointed the following committee of arrangement for the next meeting of this Convention: F. Reed,

Jo. Ray, M. Yates, Joe Allen, J. D. Davis and Sam Reid.

Adjourned to meet at Edmuntton, Metcalf Co., Ky., on the 23d and 24th of Oct. next.

W. COOK, Pres.

N. P. ALLEN, Sec'y.

Union Bee-keepers' Convention, Ky.

The Union Bee-keepers' Association of Henry and Shelby Counties, Ky., met at Eminence, April 3, 1879.

Dr. L. E. Brown, President. E. Drane, Secretary. The President delivered a short appropriate address urging the importance of bee culture as a source of both pleasure and profit.

Owing to the very inclement weather the attendance was not large—ten new members were added to our roll.

Dr. L. E. Brown was unanimously re-elected President. A. P. Curruthers, Vice President. W. L. Hopkins, Secretary. E. Drane, Treasurer.

E. Drane read an essay on artificial swarming—also exhibited a crate of comb honey in prize boxes, which was much admired; extracted honey two years old in Muth's 1 and 2 lb. jars; preserves and cake made with honey. Various sections and small frames, bee-feeders and the various bee publications of the United States, were exhibited.

We had a nice basket dinner and hot coffee—and a general lively time.

Dr. W. M. Rogers was appointed to write an essay on the purity of Italian bees. G. W. Denaree to write on races of bees. J. McConnell to write on bee pasturage.

S. T. Drane invited the Association to meet at his apiary, sometime in the honey season, in order to witness practical work.

All persons interested in bees or honey, and especially the ladies are invited—due notice of suitable time to be given as the season indicates—which invitation was accepted and the Association adjourned.

There will be a practical lady apiarist present, who will demonstrate the fact that ladies can and do handle bees as well as men.

DR. L. E. BROWN, Pres.

E. DRANE, Sec.

National Association.

Lowell, Ky., May 6, 1879.

Owing to continued poor health and too much business on my hands, it is impossible for me to attend to the interests of the National Association as vice-president for Kentucky as the case requires. I therefore tender my resignation, deeply regretting the step I am compelled to take. I do not now think of a better one to fill my place than Mr. Wm. Williamson of Lexington.

R. M. ARGO.

[We deeply regret to have Mr. Argo resign, but know of his press of business and physical afflictions. We therefore have appointed Mr. Williamson as Mr. Argo's successor, according to his suggestion.

THOS. G. NEWMAN, Pres't.

Foreign Notes.

Abnormal Winter Distension of Bees.

Mr. F. Cheshire delivered a very interesting lecture before the British Bee Keepers' Association at their late meeting in London on the subject of the "abnormal distension of the hive bee during winter, and the means of checking the same." As this subject is of considerable interest now to American apirists, we copy the following from the report as published in the *British Bee Journal*:

Physiologists divided food into two classes one contributing to force and the formation of heat, and the other building up material other than fat. Pollen was exceedingly rich in nitrogen, and contained, also, abundance of phosphorus and other matter which constituted it a tissue-forming food. Honey, on the contrary, was a hydro-carbon, consisting almost entirely of saccharine matters, and, like common sugar, did not undergo digestion, but simply transuded through the delicate tissues into the circulation, becoming utilized for giving heat and force. So used, it is converted into water on the one hand, and carbonic acid gas on the other. This escaped through the lungs, no residue remaining to be carried off in the excreta. This might be proved by heating ordinary sugar when it would pass through changes like those made by it in the animal economy, and if it were perfectly pure no semblance of ash would remain. When the bee took honey it was gradually absorbed into the fluids, and passed off from the organization of the bee through the breathing apparatus. When he said honey, from whatever source it might be obtained, it always contained a smaller or larger amount of pollen, which was of nitrogenous substance, and would contribute a small amount to the bowels. Honey was converted into carbonic-acid gas and water. The same result followed the burning of a candle; having been consumed it would leave nothing but ash, which would be a portion of the cotton-wick to be returned to the earth whence it was taken. During the time of the burning, heat would be coming from it, and the same process took place in the economy of the bee; when sugary matters undergo oxidation by union with oxygen they pass off into the atmosphere, and heat is developed. He then proceeded to explain the internal structure of the working-bee, pointing out that it possessed five spiracles, or openings on each side of the abdomen, and two on each side of the thorax, by means of which the air was taken in. If the bee desired to produce a larger amount of heat, this could be done by the telescopic vibration of the abdomen. It was a matter of considerable interest that the large air-sacs were not possessed by the queen-bee, in

which they were replaced by ovaries, or egg-vessels. The reason was very clear. The queen did not have to produce temperature—that might be left to the workers. The air-sacs of the worker are only fully distended during flight, and this distension aids, or rather renders possible, the rapid expulsion of excrementitious matters at the moment the abdominal segments are drawn together by a muscular effort. The bee, bloated with effete products, and too weak to fly, can only so feebly perform the act of extrusion that its abdomen is soiled by the nauseous trail.

A cluster of bees, if fairly numerous, with an external atmosphere of 40 degrees, would, while remaining in absolute rest, oxidize sufficient honey to maintain their necessary temperature; but, supposing the surrounding air should suddenly fall many degrees, what would happen? The previous condition of restfulness would be changed for activity, and cases were not wanting in which cold, which tends up to a certain point to dormacy, becomes itself a stimulant. In animals that hibernate they remain perfectly still while the surrounding atmosphere was simply cold. As the air chilled intensely however, the breathing was quickened, and oxidation increased; so that there was generated a larger amount of heat, and that larger amount of heat screened them from the cold, and they were brought through the trial without harm. It was just the same in the case of bees. With a very low thermometer they began to vibrate their abdomens, as before stated. In the restful condition there was the oxidation of honey or saccharine substances producing carbonic acid and water, only waste. Now they had nerve (because without nerve-action there was no muscular action), and muscular waste, producing material which passes to the bowels. But suppose the cold continues and the temperature falls very much. It had been remarked that cold itself would not hurt bees; that, he thought, was simply a blunder. Cold *did* injure them, especially when the temperature became so low as to necessitate agitation in order to enable the bee to withstand it. In prolonged spells of intense severity, stores often become (especially if unnaturally placed) so cold that the bees could not touch them, and then the saccharine matters in their fluids being exhausted, they had to draw upon their own muscular tissues, to work them into material which should be heat-producing. That was to say, the bee had now to oxidize herself, and for the present was converted into a carnivorous creature having to devour her own body! Carnivorous animals in confinement receiving only tissue-forming foods, are always in a condition of unrest, pacing their dens, and in this seem only to be following an instinct by which muscular tissue may be retrograded until it becomes material for oxidation. A portion of the tissues remained which could not be got rid of thus. This must pass away through the bowels. A large quantity of phosphates and sulphates passes off into the bowels, and to these the urinary secretions are added. But while the bee was being loaded in this way another unhappy circumstance was going on—the integuments of the bee were being reduced in weight, so it be-

came lighter and weaker; yet the bowels were getting so loaded that when the bee tried to fly it had a greater amount to carry than if it had been properly fed. Some people said bees were accustomed to hibernate, and others said they were not. The truth seemed to lie between these statements. When without brood and with the thermometer constantly at about 40° they hibernated, but with a higher or lower temperature they increase in activity. He had been speaking of wintering bees as though no brood were present. If brood were present it would be necessary to keep the temperature up, especially if it were near the time of hatching. To sum up, he inquired, what were the causes of abdominal distension, and briefly reviewed his foregoing remarks. The main causes were worry on the one hand, and starvation on the other. Some people said their bees were not starved for they had found honey in the hives, but they forgot that the bees might not have been able to get at the honey. How was abdominal distension to be prevented? Much might be done by keeping the hives dry without and properly ventilating them. Keeping the bees numerous, and screening them from loss of temperature (which meant loss of honey) and exhaustion of bee life.

☛ The French reports are to the effect that there has been much loss during the winter and spring, and also that abnormal swarming has been prevalent.

Translated by Frank Benton.

Twenty-third German Convention.

Next to the great gathering at Halle, the Twenty-third Convention of the German and Austrian Bee-Culturists held last Sept. 10th to the 13th, in Greifswald, Pomerania, is to be ranked. There were 898 present, among them many of the German masters: Dr. Dzierzon, Herren Dathe and Hilbert, Prof. Muentner and lady, Count Behr, Pastors Knoblauch and Rabbow, Herr Lehzen, and many others being among the number. After the welcome extended to all by the 1st President, Prof. Dr. Muentner, the "great master," Dzierzon, was introduced by a neat speech from Pastor Knoblauch, and greeted with three hearty cheers as well as a continued storm of applause. Then the Mayor, Herr Helfritz, bade the Association welcome as Griefswald's guests. (Great applause.)

When the venerable master, Dzierzon, rose to open the discussion of the first question, he was greeted a second time with enthusiastic applause. The question first discussed was:

Is the phenomenon of the preparation of food for larvæ fully explained, or is there a mystery still connected with it, and to what extent is this the case?

Dr. Dzierzon said: The food of the larvæ, judging from its never-varying color and quality, is by no means a mixture of honey and pollen, but is secreted in the body of the bee as milk is formed in the bodies of mammals, and is therefore to be looked

upon as a product peculiar to the body of the bee. The food eaten by bees, pollen and honey, is completely digested, the available elements are taken up by the general mass of the blood, and the food for the larvæ is secreted by the salivary glands. Thus it might be explained that bees, without possessing a cell of pollen, could rear brood and feed the young bees with their blood, which occurrence may very likely be the reason that in the spring before the pollen-harvest begins, and when considerable brood has been started, there are so many dead bees. The speaker regretted that no physiologists were present, for they would certainly have been able to answer correctly this still dark question.

Herr Vogel, of Lehmannshöfel, agreed fully with Dr. Dzierzon, and stated as additional testimony, that brood given to a colony previously having none, would be cared for at once.

Herr Hilbert, of Maciejewo, was of the same opinion as the two speakers who preceded him, and referred to the fact that in experiments with milk and egg-feeding, too great a quantity of nitrogenous food or a lack of the same, or, what is the same thing, an over-production or a lack of larvæ-food, would be likely to be injurious.

Herr Wachter, of Merseburg, called especial attention to the nitrogenous-holding fennel-blossom honey, and recommended in highest terms milk and egg feeding.

Dr. Dzierzon spoke again, saying that the salivary glands are the real producers of food for larvæ, which fact is seen by considering that in the spring when no pollen is at hand the bees feed their brood, yet usually when they are compelled to continue this long, they die in large numbers, weakened on account of the drain upon their blood.

"Niemand" remarks that from a strictly practical stand-point, the solving of this problem is very important; that perhaps scientific men, by comparing the results of experiments, may throw some light on this matter.

Foreign Items.

GLEANED BY FRANK BENTON.

The great exhibition of bees, hives, honey, and bee-manipulation, held under the auspices of the Royal Agricultural Society of England, and open to competitors of all nations, takes place June 30th to July 7th. Prizes to the amount of \$116.14 are offered.

The 24th Convention of German and Austrian bee-keepers will be held from the morning of Sept. 7th, to the evening of Sept. 11th, in Prague, Austria. This is the celebrated *Wanderversammlung* of the German and Austrian bee-culturists, and of course, a grand time will be had. It is proposed to make the apiarian exhibition held at the same time, an international one. Applications for space should be made previous to August 25th.

BERNARD DE GELIEU, of Colombier, Switzerland, a well-known and often-quoted bee-keeper, died last January, at the age of eighty-one. *Que la terra tue soit legere!*

STEARNS & SMITH, 423 Front St., San Francisco, Cal.



Local Convention Directory.

1879. *Time and Place of Meeting.*
 Oct. 7.—Central Kentucky, at Lexington, Ky.
 14.—Albany County, N. Y., at Albany, N. Y.
 15.—Central Michigan, at Lansing, Mich.
 21.—National Convention, at Chicago, Ill.
 23, 24.—Southern Kentucky, at Edmuntun, Ky.

1880.

Feb. 11—Northeastern, at Utica, N. Y.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

☞ J. W. Newlove's price list of apiarian supplies. He is located at Columbus, O.

Bingham Smoker Corner.

Otsego, Mich., May 10, 1879.
 A. I. ROOT, Medina, O.—Dear Sir: Seeing that in last *Gleanings* it is stated that the "Scovell smoker is no infringement," I wish to say that there must be a great mistake somewhere. The AMERICAN BEE JOURNAL pronounced it "an infringement," and I sent for a smoker. I think it is not only an infringement, but a substantial copy of my smoker. I trust you will do your readers the favor and kindness of publishing my fourth claim (you have it I believe) or this letter, and greatly oblige me.

Very truly, T. F. BINGHAM.

Los Gatos, Cal., April 25, 1879.
 Enclosed find order for honey knife with cap-catcher. I received of you two years ago one of your standard smokers, which has had constant hard usage, and is still good for many years. I could not keep bees without it. I would not take twenty dollars for mine if I could not get another. I have tried others, but none compare with yours.

S. S. BUTLER, M. D.

Edgesfield Junction, Tenn., May 1, 1879.
 I have used and sold the Bingham bee smoker for the past three years, in middle Tennessee, and find they have no equal. His honey knife is also the best I have ever used. Out of twenty hives I lost only two last winter, which I attribute to my own neglect. My bees are all doing well; had one swarm on the 25th and one on the 25th ult. Have managed my bees according to Mr. Bingham's advice for the last three years, and consider his system the best. We consider the AMERICAN BEE JOURNAL the best authority extant for the culture and management of bees.

J. A. REMLEY.

Tuscaloosa, Ala., May 11, 1879.
 Send me by mail two Bingham smokers. I would as soon think of being without my meals as doing without a Bingham smoker.

F. P. TURNER.

SOMETHING OLD!

OLDEST AND BEST!

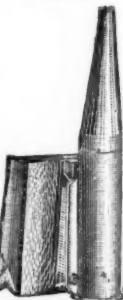
The old, reliable, original, direct-draft Smoker.

This Smoker is so perfect that it has never been improved. The more exact the copy the better the Smoker and the plainer the infringement. Beware of all new direct-draft smokers—Bingham owns all there is of value in them. Every seller and user is liable. Our Smoker has been in use two years longer than any bellows Smoker now made. If you want the best Smoker and no further expense, buy only the Bingham. If you want to encourage invention and not theft, buy only the Bingham.

Standard size, 2-inch.....\$1 50
 Little Wonder, 1½-inch.....1 00
 Extra large, 2½-inch.....1 75

Sent free, per mail, on receipt of price. A discount of 12 per cent. made from retail rates on all smokers sent by express with or without one or more Bingham & Hetherington patent Honey Knives.

Address, T. F. BINGHAM, Otsego, Mich.



ITALIAN QUEENS.



That there is a vast difference in the practical, desirable qualities of Italian bees, is a fact well known by all who have bred them on a large scale. We have for many years past kept this point in view, and have perfected a strain of bees that excel as honey-gatherers, at the same time securing the desirable quality of hardness that enables them to safely pass our coldest winters. We shall continue to rear and sell choice queens from this strain of Italian blood, during the season of 1879, at the following reasonable prices. We ship no dollar queens until they are fertile and begin to lay.

Untested queens, each	\$1 00
" " per half dozen	5 75
" " per dozen	11 50
Warranted " each	1 50
" " per dozen	15 00
Tested " each	2 50
" " per dozen	25 00
Selected tested queens, each	3 50
Imported queens, each	4 50
Italian 7 frame nuclei, with dollar queens, each	3 00
Ditto. ditto. per dozen	30 00
Ditto. ditto. with tested queen	4 50
Ditto. ditto. with imported queen	6 50

At above prices we pay express charges on Nuclei to any point reached by the American Express Company, and on 3 or more queens, to any point reached by the American, United States, Adams, or Union Express Companies.

☞ For prices of smokers, knives, comb foundation, honey extractors, wax extractors, prize boxes, etc., see May *American Bee Journal*, or send for our descriptive 40-page Catalogue. Send money by post-office order, bank draft, registered letter or express, and address your orders to

HERBERT A. BURCH & CO.,
 South Haven, Mich.

1-1f

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian Queens, COMB FOUNDATION, and implements in bee-culture, write for circular with prices, and sample of comb foundation free.

Our foundation for beauty and purity cannot be excelled.

TESTIMONIALS.

The sample of foundation is the nicest that I have ever seen, take all points together.

G. M. DOOLITTLE, Borodino, N. Y.

Your foundation is O. K.—it looks brightest of them all. Send me 200 lbs. more.

CHAS. F. MUTH, Cincinnati, O.

We have scores of similar praises.

CHAS. DADANT & SON,
 Hamilton, Ill.

PURE ITALIAN QUEENS.

I can furnish pure Tested Queens, in June, for \$2.00; Untested, \$1.00; per dozen, \$11.00. My queens are all bred from imported mothers. Also, a nice article of Comb Foundation at a very low price. Send for sample.

A. F. STAUFFER,
 Sterling, Whiteside Co., Ill.

FOR CANADA.

Bee-Keepers in Canada can, by ordering

APIARY SUPPLIES,

Queens, etc., from us, save long freights, duties, custom-house charges and annoyances. Our queens and supplies are the best that can be produced. Catalogue sent free. W. G. WALTON, Hamilton, Ont.

We have recently made a great improvement in the Combined Machine, so that the circular saw runs at least one-half stronger with the same effort of the operator. All that is necessary to change in the old-style machines, is to substitute a 64 inch band-wheel on the mandrel in place of the 34 inch one now used. We are desirous that all should have this improvement, and offer it at cost, hoping that all will get it. We warrant the new machine to equal the old for \$164, and will press for \$100. There is no consideration of profit to us in offering the improvement at this price, except that it is to our interest that every machine should please. Very respectfully,

"MESSRS. BARNES: I am well pleased with the new improvement of the large pulley on the end of the mandrel. I can saw as much 2 inch stuff, and as fast, as I could $\frac{3}{4}$ inch with the other pulley."

Published by G. P. PUTNAM'S SONS, 182 Fifth Avenue, New YORK.

It possesses such a fluent style that its perusal was a great pleasure. Its contents cover all the ground in bee-keeping, from "Beginning" to "Marketing."—*American Bee Journal*.

It has the fascination of a novel. Its English is so simple, terse, and good, that it has given me real delight.—*Mrs. Helen Hunt Jackson* ("H. H.")

The subject is deprived of all dryness and made as interesting as a story, by an accompanying narrative of personal effort, investigation, and industrious application.—*Harper's Magazine.*

His method of procedure is told in simple, beautiful language, and the story is more fascinating than many a novelette with greater pretensions.—*Christian Register*.

*** These chapters cannot fail to aid in diffusing a knowledge of bee-culture, and they will give, moreover, great pleasure to many readers who have not the remotest anticipation of undertaking bee-culture.—*Denver Tribune*.

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It is not only valuable, but interesting as a story.—*Detroit Post and Tribune.*

Conveys a good deal of information in a pleasant way.—*Cultivator and Country Gentleman.*

So delightfully written that no one can fail to enjoy it.—*N. Y. Churchman.*

We have them in their purity. Circulars and prices free.
J. M. BROOKS & BRO.,
Box 64, Columbus, Ind.

6-tf F. W. CHAPMAN, Morrison, Ill.

—High side-walls, 4 to 16 square feet to the lb. Circular and samples free.

Prize Section Boxes and Frames at Low Prices. Any
other pattern of Hive made to order. Send for Price
List, to **DUNN & STEVENS.**
 Ref. } First National Bank, **MONMOUTH, ILL.**
 } T. G. McGaw. " " "

ITALIAN QUEENS—All bred from Imported Mothers of my own importation. Dollar and Tested Queens from 1st April to 1st November. Full Colonies and Nuclei; Bee-Keepers Supplies of all kinds; Comb Foundation, etc.

6-tf PAUL L. VIALLO, Bayou Goula, La.

Purchase your tickets via THE IOWA ROUTE, composed of the Burlington, Cedar Rapids & Northern, and Minneapolis & St. Louis Railways. The only line running Through Pullman Palace Sleeping Cars between St. Louis, Burlington, and all points on the line of the Burlington, Cedar Rapids & Northern Railway and Minneapolis.

A full line of Excursion Tickets will be sold at principal stations for the noted summer resorts of MINNESOTA, from June 1st to October 15th, at a LARGE REDUCTION from regular rates. Tickets good for 60 days from date of sale, but in no case longer than October 31st. Rate of sale of day and night tickets, Lake Superior Association has bought and improved 225 acres of land, in which are located fine hotels, which will accommodate 3000 people. Besides the sources of amusement incidental to the lake, the Park Association will hold a Musical Convention July 28th to August 1st; Grand Temperance Congress August 1st to 3rd; and the Lake Superior Association to 5th; Sabbath School Assembly, August 8th to 20th.

Don't fail to go and enjoy the attractions offered by Minnesota. B. F. MILLS, Asst G. T. Agent.
C. J. IVES, Superintendent.

Twenty hives filled with good worker comb, in frames. One dollar per hive.
D. C. MILLET, Holmesburg, Penn.



BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian queens, COMB FOUNDATION, and implements in bee culture, write for circular with prices, and sample of comb foundation free.

Our foundation for beauty and purity cannot be excelled.

TESTIMONIALS.

The sample of foundation is the nicest that I have ever seen, take all points together.

G. M. DOOLITTLE, Borodino, N. Y.

Your foundation is O. K.—It looks brightest of them all. Send me 200 lbs. more.

CHAS. F. MUTH, Cincinnati, O.

We have scores of similar praises.

CHAS. DADANT & SON,

Hamilton, Ill.

An Extractor, as good as the best, and not costing more than a Bee-Hive. Send on \$2.50 and receive the fixings complete for inserting into a common barrel, and, by fitting a lid on the barrel, you will have an instrument as handy and efficient as any that are made. It was used with entire satisfaction last season. Any size at the same price. Always send outside measurement of frames when ordering. Complete printed instructions are sent along with the fixings; also, an appendage for extracting pieces of comb, for 50c., if ordered. WM. THOMSON, 5-6 1051 Grand River Ave., Detroit, Mich.

LOOK! LOOK!

at our Circular and Price List before ordering your
APIARIAN SUPPLIES.

We sell

HIVES, FRAMES, SECTION BOXES, GLASS, TIN SEPARATORS, HONEY AND WAX EXTRACTORS, SMOKERS AND KNIVES.

Also, the very best, pure beeswax

COMB FOUNDATION,

Either lozenge-shaped or flat-bottomed, in any quantity and at the lowest prices. Our implements are of the latest approved pattern. Satisfaction guaranteed. Send now for price list and sample of the thin flat-bottomed Foundation for Surplus Boxes, to

W. D. WRIGHT,

5-1f

Knowersville, N. Y.

Cheap Hives.

See our "ad." in JOURNAL for December, January, February and March.

CHEAP SECTIONS.

Following prices are for any size up to 6x6:

Plain, sawed smooth, per 1,000	\$4 50
" sandpapered, "	5 50
Dovetailed, sawed smooth, per 1,000	5 50
" sandpapered, "	6 50
Lewis' Sections (all in one piece), sandpapered, per 1,000	7 50

Lewis' Honey Boxes and Dovetailed Honey Boxes, very cheap, all of excellent material and Workmanship. All Sections grooved for foundation. No charge for boxing. Discount on large orders.

Send for Price-List.

LEWIS & PARKS,

successors to G. B. LEWIS, Watertown, Wis.

ITALIAN BEES.

50 Colonies of Italian Bees for sale cheap.

3-5 WM. J. ANDREWS, Columbia, Tenn.

L'APICULTEUR. is the title of the French Monthly Journal devoted to bee-culture, edited and published by Mons. H. Hamet, Rue Monge 59, Paris. Price 7 francs.

COFFINBERRY'S EXCELSIOR HONEY EXTRACTOR, From \$8.00 to \$14.00.

Sizes and Prices:

No. 1.—For 2 Langstroth frames, 10x18 inches...	\$8 00
" 2.—For 2 American Frames, 13x13 inches....	8 00
" 3.—For 2 frames, 13x20 inches or less	12 00
" 4.—For 3 " " " "	12 00
" 5.—For 4 " " " "	14 00

THE EXCELSIOR HONEY EXTRACTOR combines all the advantages of other Extractors, and is the cheapest thoroughly practical machine ever yet made.



It is made entirely of metal, and is the best Honey Extractor in the market. It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no screws to take out, nor heavy pieces to lift.

Some of its advantages are as follows: The lower end of the comb basket shaft does not revolve in the honey below, even when 60 or 70 lbs. may be there!

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames.

An over-motion and strong gearing is essential to both ease of operation and effective work.

It has a small comb-holder for extracting pieces of comb or partly-filled sections.

Nos. 3, 4 and 5, have neatly-fitting covers, movable sliding sides to the baskets, and movable strainers covering the canal to the faucet, whereby the last drop of honey can be drawn off without a particle of sediment.

being called for, I have made one for the Langstroth frame, and one to take the American frame, to sell at \$8.00. These have no covers or strainer, and are much smaller than the \$12.00 and \$14.00 sizes, but for the frames named are equal to the others for effective work, and are the best cheap extractor made.

A CHEAPER MACHINE

C. C. COFFINBERRY, Chicago.
Or AMERICAN BEE JOURNAL Office.

THE VOICE OF MASONRY AND FAMILY MAGAZINE FOR 1878.

Will be edited as heretofore; will contain 900 pages of Masonic and Family Literature: will be finely illustrated, and will furnish a greater variety of articles from a greater number of contributors than has appeared in any preceding volume. No proper efforts will be spared in making it, beyond question, the most attractive and valuable volume of a Masonic and literary magazine ever published. Published monthly, at \$3.00 per annum, in advance. Single copy, 30 cents. Address JOHN W. BROWN, Publisher, room 12, 182 S. Clark St., Chicago, Ill.

COMBINED CIRCULAR AND SCROLL SAW, FOR HIVE, BOX AND FRAME MAKING.

J. S. Woodburn, Newville, Pa., after two years' use, says :

"I find myself quite equal to cutting out from 12 to 15 hives per day. Am now engaged on a job of 100 hives, 1000 frames, 5000 sections and 500 broad frames, and expect to accomplish it all on the Combined Circular and Scroll Saw."



Above cut shows the Combined Circular and Scroll Saw. The cut below shows table arranged for box and frame work.

Price of the Circular and Scroll Saws combined...	\$40 00
" Boards with gauges for frame and box work	75
" Cutter heads, each.....	1 50
" Circular Saw without Scroll Saw Attachment	35 00

The following cut shows a thin board $\frac{1}{4}$ inch thick placed on the table with a rib fastened to it with brads. This rib is of the same width as the cutter and is placed from the cutter the width of the cutter. This rib and board are so easily made that we do not furnish them unless specially ordered. The price of them is 75 cents. If different width cutters are used, a board with a corresponding rib can be made for each cutter. This way of making the joints for boxes is largely used by bee-men, fruit men, and manufacturers of many articles in different lines of trade.

When ordering cutters for this box-work, please mention for what use they are wanted, besides giving width, and we will send those that are most suitable.

This is a cheap, effective machine, and, with its attachments, combines all that is wanted by the apiarist to successfully and economically manufacture all his supplies in hives, boxes, frames, etc. Hundreds of bee-keepers are now using them successfully. We will ship them

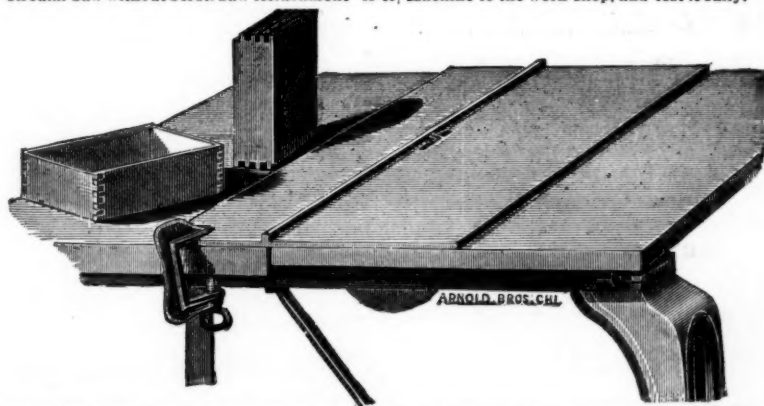
ON TRIAL IF DESIRED.

On receipt of \$5.00 with the order, we will ship this machine on trial, the balance of the bill we will send to your express agent for collection, with instructions to hold the money until ample time is had to test the machine.

If the machine is not satisfactory, he will return the money when you deliver to him the R. R. receipt, showing re-shipment, with no back charges. We will then return all of the \$5.00 not used to pay freight and collection charges.

Strangers to us and our machines, ordering on these conditions, can by risking a very small amount, secure to themselves the privilege of returning the machine should it not merit their approval.

By trial we do not mean simply an examination at the freight or express office, but you may take the Machine to the work-shop, and test it fully.



Showing the Combined Machine, Arranged with a Cutter-Head for making Tongue and Groove Joints for Boxes Drawers, Frames, Etc.

W. F. & JOHN BARNES, Rockford, Winnebago Co., Ill.



ITALIAN QUEENS,

1879.

Price, April, May and June.....each, \$3 00
 " July, August and September..... " 2 00

STANDARD OF PURITY.

All Queens guaranteed to be of good size, vigorous and producing workers large and uniformly marked with three distinct yellow bands, of fine golden color. We shall have a shipment of fine *Tested* Queens, from Italy, in April, selected for our Apiary. No Circulars. [2-tf] A. F. MOON, Rome, Ga.

Italian Queens or Colonies.

Eighteen years experience in propagating Queen Bees from imported mothers from the best districts in Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

WM. W. CARY,

3-tf Colerain, Franklin Co., Mass.

DUNHAM FOUNDATION MACHINE!

And also everything of any practical value in the Apiary: Hives, Sections, &c. Samples of Foundation made upon the above machine FREE. Circulars sent on application.

FRANCES DUNHAM,

3-8 Depere, Brown Co., Wis.

ECES! ECES! FOR HATCHING.

Packed in new baskets for any distance, from First Premium Brown Leghorn and Black B. H. G. Bantams, mated for me by I. K. Felch, and purchased of him, who says they are as good as money can buy of him. A fair hatch guaranteed or order duplicated, at \$2.50 per 13, or \$4.00 for 25.

4-5 C. W. CANFIELD, Athens, Bradford Co., Pa.



11y1

JOYFUL News for Boys and Girls! Young and Old!! A NEW INVENTION just patented for them, for Home use!

Fret and Scroll Sawing, Turning, Boring, Drilling, Grinding, Polishing, Screw Cutting. Price \$5 to \$50.

Send Stamp and address
EPHRAIM BROWN, Lowell, Mass.

Queens. 1879. Queens.

We shall be able to furnish Italian Queens after May 15th, at following prices:

Choice *Tested* Italian Queens.....\$2 50
 Warranted.....1 50
 Queens bred from Imported Mothers, but not warranted.....1 00

FOUL BROOD

will be cured with our "Foul Brood Remedy." Cure warranted. Write for particulars.

4tf **MILLER & HOLLAND,** Kewaskum, Wis.

FOR QUEENS, BEES, HIVES,

And all kinds of Supplies at bottom prices, ask for Price List.

B. B. BARNUM,

Louisville, Ky.

For Sale!

An Apiary in a choice location, Full Colonies, Queens, Bingham Smokers, Bingham & Hetherington Knives, Extractors. Fancy Spruce Sections and Boxes, Glass, Comb Foundation, Bee-Veils, Bee Feeders, &c.

The Turner Raspberry

has no equal either as a Garden or Market Berry, or as a

HONEY PRODUCER.

Send address for Circular and Price List, to

JAMES HEDDON,

DOWAGIAC, MICH.

Murphy's Honey Extractor.

Send for Murphy's Price List of Honey Extractors for 1879. The

Only American Extractor

that was awarded a

Medal & Diploma

by the regularly appointed judges at the Centennial Exposition of 1876. Also,

SECTION

Honey Boxes

of all kinds, at low rates.

Address,

R. R. MURPHY,

Garden Plain,

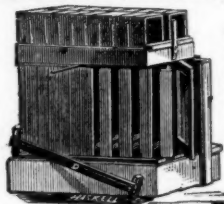
5-7 Whiteside Co., Ill.



ARMSTRONG'S

IMPROVED

CENTENNIAL BEE HIVE.



This hive gives entire satisfaction wherever it has been used. It is very simple in construction, and for ease and rapidity in manipulating, out-door wintering, &c. it is the I. X. L.

Descriptive circulars sent free to all.

Address,

E. ARMSTRONG,

5-7 Jerseyville, Ill.

ITALIAN QUEENS,

Bred from IMPORTED and HOME-BRED mothers. Young, beautiful, and good as the best. Safe arrival guaranteed. *Tested*, each \$2.00; warranted pure, each \$1.25. Address,

4-6

T. N. HOLLETT, Pennsville, Ohio.

Look Here.

HART'S IMPROVED LANGSTROTH HIGH-PRESSURE BEE HIVE!

After about fifteen years experimenting, simplifying and utilizing, I have succeeded in arranging a hive that I am confident possesses more advantages for less money than any other yet offered, and as it is patented—by letters dated 1868 and 1872—will state some of the advantages: It is double and triple walled, one thickness tarred roofing paper, side opening, fast or loose bottom, adjustable portico and honey-board, can be used single or two-story, long, low brood-chamber, or compounded to suit any sized swarm, either for comb or extracted honey, breeding colonies or for a non-swarmers. Now, after testing my hive thoroughly, I wish to introduce it to the beekeepers of the United States, either by selling territory very cheap, or by responsible agents, giving references, to manufacture and sell on a royalty. By sending 25 cents in stamps you will get a pamphlet of 50 pages, describing it more particularly, and giving much useful matter pertaining to my plan of working, &c. **A. H. HART.**

Appleton, Wis., March 12, 1879.

1879. Queens!—Queens! 1879.

ITALIAN QUEENS! CYPRIAN QUEENS! HUNGARIAN QUEENS!

During the past eighteen years we have been

HEAD-QUARTERS!

for Italian Queen Bees, and now we have added the Cyprian and Hungarian bees to our stock. To be up with the times, we shall continue to sell

DOLLAR QUEENS!

With our long experience in the Queen-rearing business, we can warrant all our Queens to be purely fertilized, and we also guarantee safe arrival by mail or express. Parties intending to purchase Queens the coming season should read our

Special "Queen Bee" Circular!

giving instructions for introducing Queens safely, and containing other information valuable to beekeepers. All bee-keepers should read our eighteenth annual circular and price-list of apian supplies. Both circulars sent free.

PRICES OF QUEENS.

Tested Queens, each.....	\$2 00
" per dozen.....	20 00
Warranted Queens, each.....	1 00
" per dozen.....	11 00
IMPORTED QUEENS.	
Cyprian, each.....	\$10 00
Hungarian, each.....	5 00
Italian, each.....	4 50

H. ALLEY,

Wenham, Essex Co., Mass.

LAND IN FLORIDA.

640 ACRES OF TIMBER LAND in Northern Florida, about 50 miles south of the Georgia Line, 25 miles west of Tallahassee, and near the Apalachicola river. The land is clear and unincumbered. Will trade the above described land, either a part or the whole, for a farm or an apiary in some North-western State, at a fair valuation for both. For particulars, giving a description of what you wish to offer in exchange, address, **FLORIDA LAND**, care **AMERICAN BEE JOURNAL**, Chic go.

SPERRY & CHANDLER'S NORTH STAR HIVE.

There are now over 1,000 of these Hives in use in different parts of the United States, and wherever tried they are pronounced the best Hives before the public for all general and special purposes. We are now prepared to promptly fill all orders for the North Star, or Improved Langstroth, with our patent Manipulating Side. Samples of surplus honey taken from the North Star, as also our hives in use, may be seen at the American Bee Journal office. Send for illustrated circular—correspondence solicited.

Address **SPERRY & CHANDLER,**
974 W. Madison Street,
Or **AMERICAN BEE JOURNAL**, Chicago, Ill. 8-1f

GEORGE GRIMM,

OF
JEFFERSON, WISCONSIN,

hereby respectfully gives notice to the public, that his Circular and Price-List of Italian Bees for the year 1878-9, is ready, and that he is selling at his usual low prices. 10-6

Foundation Machines.

12 inches wide.....	\$40 00
9 inches wide.....	30 00
6 inches wide.....	25 00

Every machine warranted. On receipt of 10 cents, I will send a sample of the foundation made by the machine. Machines for drone or worker comb at the same price.

12-1f **JOHN BOURGMEYER**, Fond du Lac, Wis.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Combs, Section Honey Boxes**, all books and journals, and everything pertaining to Bee Culture. *Nothing patented.* Simply send your address on a postal card, written plainly, to **A. I. ROOT**, Medina, O.

Material for Prize Boxes.


Ready to nail, sawed from white basswood or pine, one side planed smooth by machine, to fit glass 6x6 inches or less:

In lots of 1,000 to 3,000, per 1,000.....	\$6 00
" more than 3,000, per 1,000.....	5 50

Material for Cuses, according to size; material for California Section Boxes, sides put together, thickness of sides, top and bottom pieces $\frac{1}{4}$ inch, nailing box included, to take glass (on the ends of boxes), 6x6 inches or less, for 500 frames or more, at the rate of \$10.00 per 1,000. **SEYMOUR RUGGLES,**
5-1f Saratoga Springs, N. Y.

Bees!—1879.—Bees!

Full Colonies, Nuclei and Queens Cheap. Supplies furnished. Satisfaction guaranteed. Write for particulars. **S. D. MCLEAN & SON**, Culleoka, Maury Co., Tenn. 2-7



**THIS NEW
ELASTIC TRUSS**

Has a Pad differing from all others, in cup-shape, with Self-Adjusting Ball in center, adapts itself to all positions of the body, while the BALL in the cup PRESSES BACK the INTESTINES JUST AS A PERSON WOULD WITH THE FINGER. With light pressure the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail. Circulars free.

Eggleston Truss Co., Chicago, Ill.,



Bingham & Hetherington HONEY KNIVES!



Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not like any other honey knife ever made. They are superior in finish and temper, and do much more and better work. No one can afford to be without one. Plain, \$1.00; with movable cap-catcher, \$1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON, Abonia, Allegan Co., Mich.

Bee-Keepers' Supplies!

I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,

JNCAPPING KNIVES,

WAX EXTRACTORS,

LANGSTROTH BEE HIVES,

SECTIONAL BOXES,

SQUARE GLASS HONEY JARS,

to hold one and two pounds each, with Corks, Tinfoil, Caps and Labels, $\frac{3}{4}$ lb. Tumblers, Glass Fruit Jars, &c.

COMB FOUNDATION,

BEEWAX, GLOVES, VEILS, STRAW

MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

CHAS. F. MUTH,

2-tf 976 and 978 Central Ave., Cincinnati, Ohio.

American Bee Journal and Bee-Keeper's Magazine sent at club rates to single subscribers. Barnes' Foot-Power Saws, for hive making, Extractors, Smokers, and Bee Literature of the day supplied. Send for Circular.

E. H. WYNKOOP, Catskill, N. Y.

Oesterreische Bienen-Zeitung.

Allgemeines Organ für Bienenzucht, Organ der Gesellschaft der Bienenfreunde in Böhmen. A monthly paper devoted exclusively to bee-keeping. Price, 1f. 20c.—Austrian value. 60c. a year. The cheapest and largest Austrian bee journal: contributors are the best practical writers on bee-keeping in all parts of the world. The only German journal that furnishes reports and items from the American and English bee papers. Addresses to be sent to **RUDOLF MAYERHOFFER**, Publisher of the Oestern Bienen-Zeitung, Praga Neustadt 747.

J. OATMAN & SONS' CORNER.

We wish to inform our friends that we are producing

COMB FOUNDATION,

in large quantities and of superior quality. Our facilities are such that we can supply in any quantity desired on short notice, and all favoring us with their orders shall have prompt and satisfactory attention. In at least one point our foundation excels that produced by any manufacturer in the country. Will supply in any quantity wanted, or size desired, at the following prices:

1 to 20 lbs., per lb.	55c.
25 to 45 " "	53c.
50 to 90 " "	52c.
100 to 400 " "	50c.
500 to 900 " "	48c.
1000 lbs. and upwards, special figures.	

If ordered in lots of 5, 10, 15, 25, 50 or 100 lb. boxes, 8x16 $\frac{1}{2}$ or 12x18, ten per cent. may be deducted from the above figures.

Wax to be made into Foundation.

Lots of 100 lbs. and upwards sent us, with 12 $\frac{1}{2}$ c. per pound, freight pre-paid, will be made up and cut to any size, and delivered on board cars here.

Italian Queens.

The superiority of the Queens reared in our apiaries is so well established, we shall not here detail their merits; but to those wishing honey-producing stock, combined with prolificness, we will say they are not beaten. Our arrangements for breeding largely are complete, and we shall take pleasure in booking your order now. Those desiring Queens among the first sent out, will do well to order at once.

Dollar Queens, each	\$1 00
per doz.	11 50
Warranted Queens, as good as ordinary Tested, each	1 50
Ditto ditto ditto per doz.	15 00

Langstroth and Modest

BEE HIVES,

for the million, at prices to suit the times.

Honey Boxes and Sections,

plain and dovetailed, are large specialties, and if you desire a nice job, at a fair price, we can accommodate you.

Extractors, Smokers, Bee Veils,

and everything needed in the apiary, supplied at the lowest living rates. Order your goods early, remembering that large yields of honey are only obtained by having everything ready for securing it.

J. OATMAN & SONS,

4-tf

Dundee, Kane Co., Ill.

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HONEY
HOUSE.

As a Manufacturer of

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.

Market price for Beeswax.



For Sale for 1879.

The best is the cheapest at any price.
Circular sent free. Address, D. A.
PIKE, Box 19, Smithsburg, Washing-
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Italian Queens, Nuclei and Colonies,
Bred and reared in full strong Colonies. Queens and
Drones from selected mothers.

Single Queen, Tested.....	\$2 00
Single Queen (laying), Untested.....	1 00

On all orders for 10 or more Queens I will pay express charges, except to States west of Rocky Mountains.

1	Langstroth frame Nucleus.....	\$2 00
2	" " "	2 50
3	" " "	3 00
8	" " Colony.....	6 00

Nuclei and Colonies in nice white pine hives. One Dollar more when containing Tested Queen. Send money by P. O. Order or Registered Letter.

Orders promptly filled and safe arrival guaranteed.
Address, **W. P. HENDERSON,**
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1879—Early Italian Queens.—1879.

Imported and home-bred Queens, Nucleus Colonies, Full Colonies. For quality and purity, my stock of Italians cannot be excelled by any in America.

If you want the best Movable-Comb Bee-Hives, suited to the Southern climate, Honey Extractors, Bee-Veils, Smokers, Feeders, Gloves, or bee-fixtures of any kind, send for my new Circular. Address,
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Send for price-list of Queens, full colonies, four-frame nuclei, comb foundation, and apiarian supplies. Satisfaction and safe arrival guaranteed. All Queens reared from Imported Mothers.

4-11 H. H. BROWN, Light Street, Col. Co., Pa.



1879.

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CAMARGO, ILL.

Breeders of Pure Italian Bees and Queens, from Imported and Home-Bred Mothers, and Manufacturers of Hives, Prize Boxes, Comb Foundation, and all general Apianian Supplies.

REES.

Reserved and Early Tested Queens.....	\$3 00
Queens, July to September.....	2 50
Colonies of 10 frames.....	9 00
" 12 ".....	10 00
Nucleus, 1 frame.....	4 00
Comb Foundation, 10 lbs. or over, per lb.....	50

Wax cleaned and worked for 25c. per lb., or on one-half shares.

 Send for Circular.

2-7

FOR 1879.

I shall breed Italian Queens for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed in every shipment. Prices very low. Circulars sent free. Address,

Prices very low. Circulars sent free. Address
D. P. MYERS,
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Supplies for your Apiary, send a postal card with your name (and if you will do us the kindness, those of bee-keeping neighbors) for our illustrated circular of Apiarist's Supplies, of every description; sample Sectional Box, and Comb Foundation made on the

machine, which is the latest improvement in that line. We wish to place these samples before

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of this JOURNAL, and hence offer them **FREE**. Just send your name at once. Special attention given to rearing Italian Queens and Bees.

✓ We have secured the general agency of the above machine.

The highest price paid for Beeswax.

1-tf J. C. & H. P. SAYLES, Hartford, Wis.

In the Market again with 100 Colonies of

with young, fertilized Queens, less than 60 days old, at \$5.00 per Colony. We shall continue to rear Queens through the season as usual.

Tested Queens, per dozen	\$25 00
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Safe arrival guaranteed. Address.

D. STAPLES & SON, Columbia Apiary,
Columbia, Tenn.

Strong 4 frame Nucleus, in new hives, all complete, for.....	\$5 00
Two frame nucleus	2 50

All Queens reared in full colonies, from a choice Imported Mother.
HIRAM ROOP,
 2-14 Carson City, Montcalm Co., Mich.

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Carson City, Montcalm Co., Mich.



SHUCK'S UNIVERSAL BEE HIVE.

Claims the Attention of every one engaged or inter-



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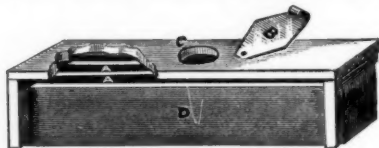
THE HIVE

Is devised by a practical bee-keeper for PROFITABLE use; double walls, with either dead air space or chaff packing; inside walls are porous, allowing all moisture to escape from the brood chamber, keeping it perfectly dry, sweet and wholesome, even with unsealed stores; both sides are removable; frames hung upon metal supports on the top of the end walls (not in rabbets) and are easily handled; brood chamber large or small, as desired, and may be as complete with one frame as with a dozen; space for 96 pounds surplus honey within six inches of the brood nest. No colony need be lost during the winter months in this hive. No melting combs in this hive during the hot weather. Positively

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Removes all the obstacles in the way of feeding, by its simplicity, cheapness, and its adaptability to the purposes required. It is to be placed at the entrance outside the hive, and supplied with sugar syrup, or syrup and flour any time in the day, without annoyance from bees, either to the bee-keeper or the colony being fed; no bees can reach the food except from the inside of the hive. Every bee-keeper appreciates the advantage of feeding to supply short stores for the colony, or to stimulate and encourage breeding, previous to an expected flow of honey.

Prof. A. J. Cook says: "I think very highly of your feeder, and only find fault with the price."

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